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CONSERVATIVE SURGICAL PROCEDURES VERSUS RADICAL PARTIAL GASTRECTOMY FOR PEPTIC ULCER.

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A fundamental in the medical or surgical treatment of uncomplicated peptic ulcer has been control of gastric secretion and neutralization of gastric acidity. Other fundamentals in the treatment of the surgical peptic ulcer include excision of the lesion under certain circumstances when possible, adequate provision for relief of pre-existing gastric retention, and the avoidance of postoperative gastric stasis. No surgical procedure accomplishes each of these prerequisites to success in all cases. It is well known that failure to accomplish all of these essentials sets the stage, so to speak, for reactivation, recurrence and unsatisfactory results even though other factors may be concerned.

The term "peptic ulcer" may be entirely adequate from the point of view of the internist in relation to medical treatment but even to him, while the method of medical management may not be materially altered by the knowledge that the lesion is duodenal, gastric or postoperative recurrent, the location and nature of the lesion are of the utmost importance. His knowledge of the response of the various types of lesions to medical treatment, of the possible uncertainty of the true pathology of a gastric ulcer, and of complications that may ensue is essential to him in detetrmining whether a given lesion shall be continued on medical treatment or whether surgical intervention is justifiable. For the surgeon the broad term peptic ulcer must be broken down and the ulcer designated by its location, whether it is situated on the duodenal or the gastric side of the pylorus, and whether it is recurrent postoperatively in the duodenum, stomach or jejunum.

Duodenal Ulcer: Certain physiologic and pathologic factors concerned in the duodenum are responsible for surgical principles in the treatment of ulcer on the duodenal side of the pylorus which are at variance with those principles concerned in the treatment of gastric ulcer. Inasmuch as it comprises about 85 per cent of the primary ulcers of the duodenum and stomach, duodenal ulcer is the prominent lesion to which so much investigation has been directed.

Ulcer rarely, if ever, develops except in the presence of an acid mdium; and curiously in the stomach in which acidity develops ulcer occurs infrequently, while it develops frequently in the duodenum, which has been accepted as having an alkaline content. That the gastric mucosa is infrequently eroded by the acid gastric content is undoubtedly due to a buffer capacity inherent within the gastric mucosa or the gastric secretion. The exact mechanism by which such buffer capacity is exercised is not known even though a number of theories have been advaned. The duodenum also possesses a buffer capacity preventing erosion of duodenal mucosa by acid, but to a lesser degree than that of the stomach. Likewise, the buffer capacity of the intestinal mucosa diminishes from the duodenum downward and the terminal ileum is least resistant to acid erosion of its mucosa.

The degree of alkalinity provided by the duodenal mucosa and its secretion, as well as the bile and the pancreatic secretion, is a variable one in the first portion of the duodenum, the constant site of the development of ulcer, below which ulcer rarely, if ever develops. In other words, the maximum buffer capacity of

the duodenum in which the alkalinity of the duodenal content is most constantly maintained, is the second portion of the duodenum below the ampulla of Vater, the site of the outpouring of bile and pancreatic secretion even though these secretions are not highly alkaline. The mucosa of the first portion of the duodenum, the site of ulcer formation, is subjected to the onrush of the acidified gastric content of the stomach as it is ejected through the pylorus and is largely dependent upon its own mucosal secretion for the buffer capacity to inhibit its erosion. Some regurgitation of the duodenal content toward or through the pylorus unquestionably occurs. Recognition of the relatively low alkalinity of the duodenal content when considered in conjunction with the abundance of duodenal, bile and pancreatic secretions leads one to accept the recent conclusion of the physiologists that dilution of the acid in the gastric content is probably a more potent factor than neutralization in producing change in the chemical reaction of the gastric content as it ocurs in the duodenus.

Surgcal Procedures for Duodenal Ulcer: Reactivation of an ulcer, as well as recurrence or new ulceration, is with varying frequency following any one of the operations devised for duodenal ulcer. However, a knowledge of certain physiologic principles favors a more carcful selection and execution of the operative procedure with a minimum incidence of unsatisfactory results. In general it may be stated that surgical methods to control gastric acidity through reduction of the amount of gastric secretion have not been highly successful. Even after a partial gastrectomy there have been returns, after several months, of gastric acidity to the preoperative level, largely through persistence of the various phases of gastric secretion, of which the cephalic or psychic phase has been important.

Gastro-enterostomy, as it has been applied to the chronic cicatricial, stenosing lesions of the duodenum, has been an eminently satisfactory procedure and has provided adequately for the relief of pyloric obstruction and the dilution and neutralization of gastric acidity. In its broader application to cases in which chronicity has been established over a period of years the operation has likewise been eminently successful and has been followed by results unsurpassed by any other operation devised for duodenal ulcer. There has been a variable incidence of jejunal or anastomotic ulcer following gastro-enterostomy in from three to 20 per cent of cases. It is questionable whether the incidence of such postoperative sequelae is greater than five per cent when the operation is carefully executed in strictly suitable cases. By carefully executed, I refer to sufficient size and proper location of the stoma and jejunum, placed so that adequate drainage of the stomach is provided without angulation of the jejunum and subsequent gastric retention. By strictly suitable cases, I refer to those complicated by pyloric obstruction, those in which chronicity has been established and are resistant for one reason or another to continued medical management, and those in which surgical intervention is clearly indicated, and no other operation is as readily applicable. The operation is accompanied by a low mortality rate. In a review of 776 cases of duodenal ulcer in which I performed gastro-enterostomy there were 18 deaths, a mortality rate of 2.3 per cent. Utilization of the highest portion of the jejunum (the least vulnerable for subsequent jejunal ulcer by virtue of the maximum degree of alkalinity and protection of gastric acidity) and the pyloric third of the stomach in making the anastomosis, provides maximum assurance for dilution and neutralization of gastric acidity as well as adequate drainage of the stomach.

The relative frequency with which gastro-enterostomy has been followed by jejunal or marginal gastrojejunal ulcer has led to the development of a number of operations upon the ulcer and the pylorus. The direct operations have much to commend them when excision of the lesion is the chief purpose but the various adjunct procedures of division of the pylorus or excision of the major portion of the pyloric sphincter are executed on premises which do not seem strongly tenable. If one can accept the physiologists' observations that variations in the pH of the content of the pylorus and the beginning of the duodenum are on the acid side most of the time, it is readily conceived that little more than excision of the lesion, and perhaps enlargement of the gastric outlet, has been accomplished by the direct operation of excision and pyloroplasty by one method or another. The stage is set, so to speak, for a recurrence in the suture line or in the first

portion of the duodenum through a persistence of factors responsible for the original ulcer. Horsely has reported satisfactory results by excision and pyloroplasty in only four per cent of his cases.

It is well known that excision of a duodenal ulcer is not essential to its successful surgical treatment. Hemorrhage—intermittent small or massive—provides the only true indication for the excision of an ulcer of the duodenum, not necessarily to cure the ulcer, but to control the major symptom of bleeding. There is a tendency for duodenal ulcer to heal spontaneously if it can be deprived of the impact of the acidified gastric content. Except in the bleeding duodenal ulcers, surgical treatment of the lesions in the first portion of the duodenum are ideally served if it either eliminates the first portion of the duodenum with its inadequate buffer capacity to gastric acidity, or short-circuits the ulcer-bearing area. Wilkie's gastroduodenostomy accomplishes these purposes most admirably.

Inasmuch as partial gastrectomy does not adequately control gastric secretion, does not always permanently reduce gastric acidity below the preoperative level, necessitates gastrojejunal anastomosis in a rather long loop of jejunum in which the resistance to new ulcer formation rapidly diminishes, and thereby does not provide assurance against jejunal ulcer, there seems to be little to recommend the radical operation of partial gastrectomy as a procedure of choice as a primary operation in the surgical treatment of any duodenal ulcer. For the same reasons it seldom need be employed as the procedure of necessity. Furthermore, the mortality rate of partial gastrectomy as a primary operation for duodenal ulcer is several times as great as that of the conservative operative operations. I have resorted to partial gastrectomy in only 1.5 per cent of the cases of duodenal ulcer I have operated upon, and the operation in all instances was in bleeding ulcers on the posterior wall of the duodenum in patients in poor condition to withstand radical operation, with a resultant mortality rate of 15 per cent. During recent years, in cases of bleeding, calloused ulcers on the posterior walls, where excision has been desirable, and in instances where I formerly had done partial gastrectomies, I have employed the more conservative operation of excising the ulcer and excluding the first portion of the duodenum by gastroduodenostomy or gastrojejunostomy without removing any portion of the stomach. This has been done as a lateral anastomosis between the pyloric portion of the stomach and the duodenum as far below the pylorus as possible, or as an end-to-side anastomosis between the divided and enlarged pylorus, and the highest accessible part of the jejunum. Such procedures are conservative, meet the fundamental prerequisites to success, may be executed within a legitimately low mortality rate, and the results are most gratifying.

Gastric Ulcer: The problems in the surgical treatment of gastric ulcer differ considerably from those in duodenal ulcer. Inasmuch as the frequent uncertainty regarding the true pathology of an ulcer or ulcerating gastric lesion invokes the fundamental principle of excision of the lesion whenever possible, the urgency for surgical treatment of gastric ulcer is greater than in cases of uncomplicated duodenal ulcer. The difficulties of differentiating clinically between a benign gastric ulcer and a carcinomatous ulcer are often great. Likewise, they are often great at the operating table, and frequently the distinction may be made only by the pathologist after careful study of sections. Not all gastric ulcers are amenable to excision by virtue either of subacute perforation onto neighboring structures and extensive inflammatory reaction, or their high situation in the stomach. In a review of 131 cases of gastric ulcer which I have operated upon 14 per cent of the lesions were situated in the relatively inaccessible cardiac third of the stomach either on the posterior wall or at the lesser curvature, in which instances excision was not readily instituted. By virtue of the high situation of the lesion and the protective perforation of large posterior lesions, excision was not resorted to in 20 per cent of the cases of gastric ulcer; instead, the indirect operation of gastro-enterostomy was employed. In the remainder of the cases excision of the ulcer was accomplished by the conservative operation of local excision and gastro-enterostomy in 71 per cent of the cases and by partial gastrectomy in 29 per cent.

The selection of the operation best suited to gastric ulcer is not materially influenced by the relative risk of the procedures, for in my experience the mortality rate of partial gastrectomy for gastric ulcer, much as I should

like to utilize it in favor of the more conservative operations, has not been in excess of that for the latter procedure but has actually been slightly less. The selection of the particular procedure is based largely upon the size of the lesion and its location. Those ulcers situated at the lesser curvature in the middle or pyloric third of the stomach and those immediately off the lesser curvature on the posterior wall, one cm. or less in diameter, are best suited to local cautery excision and posterior gastro-enterostomy is usually a necessary adjunct to local excision of the lesion because of not infrequent preoperative gastric retention or for obviating postoperative disturbance of gastric motility. Partial gastrectomy is usually the procedure of choice for gastric ulcers more than one cm. in diameter and for those lesions situated well on the posterior gastric wall. Restoration of gastro-intestinal continuity by posterior gastro-jejunal anastomosis after the method of Polya usually provides adequate drainage of the stomach and proper function. Segmental resection of the entire circumference of the ulcer-bearing part of the stomach, with restoration of gastric continuity by end-to-end anastomosis should be highly suitable for excision of an ulcer on the posterior wall. However, the frequent hour-glass deformity, with resultant disturbance in gastric motility, gastric stasis and poor function, have placed the operation in disfavor as a primary operation of choice.

Jejunal Ulcer: The problem of postoperative jejunal ulcer has not been great following the various surgical procedures for gastric ulcer. Even though they do occur subsequent to excision of a gastric ulcer and posterior gastro-enterostomy and even following partial gastrectomy, the incidence of jejunal or anastomotic ulcer is not so great relatively as it is following the various surgical procedures for duodenal ulcer. When a jejunal ulcer has developed subsequent to an operation for gastric or duodenal ulcer and medical management is, ineffectual, or hemorrhage or perforation occurs, surgical intervention usually again becomes necessary. Whether radical partial gastrectomy should be done in all cases in which a jejunal ulcer has developed following a conservative operation for duodenal or gastric ulcer is a question open to debate. Unquestionably many factors are concerned in the selection of the operation most suitable and which provides greatest assurance against subsequent recurrence. In certain instances the operation of subtotal gastrectomy has much to commend it as a secondary operation, particularly if a more conservative procedure is not readily applicable. In the presence of marked hyperacidity the radical operation may be properly instituted as the procedure least likely to be followed by recurrence. In selecting radical partial or subtotal gastrectomy as most suitable for jejunal ulcer one must be prepared to accept a greater risk and higher mortality rate than that attending more conservative operations. I have regarded secondary conservative operations with preference over partial gastrectomy and have employed the latter procedure in only 11 of 37 cases of jejunal or gastrojejunal ulcer which I have operated upon during recent years. To disconnect the gastro-enterostomy, excise the recurrent anastomotic or jejunal ulcer and close the stoma in the stomach and in the jejunum, with restoration of the preoperative gastro-intestinal continuity, was all that seemed necessary in eight cases through inability to demonstrate previously existing duodenal ulcers. In these cases it seemed reasonable to assume that ulcers did not exist at the time of the original operations. Disconnecting the gastro-enterostomy, excising the jejunal or marginal ulcer, closing the gastric and jejunal stoma, with pyloroplasty or gastroduodenostomy, was the procedure in the remaining cases.

The surgical procedures for the cure of duodenal and gastric ulcer, in properly selected cases with due regard for their suitability give entirely satisfactory results in the majority of cases. It is that minority, in which postoperative recurrence mars the result, which emphasizes the necessity of adhering strictly to surgical and physiologic principles. It is furthermore worthy of emphasis, though not proved, that there is much evidence to support the idea that foci of infection are concerned in the causation of ulcer. Wilkie believes that no treatment is of lasting benefit until all foci of infection are eliminated. There is much to suggest also that postoperative control and regulation of the habits of life aside from regulation of the diet minimize materially the likelihood of a recurrent ulcer.

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AVOIDANCE OF COMPLICATIONS OF PROSTATIC RESECTION

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Although prostatic resection has diminished by several weeks the postoperative hospitalization, postoperative complications unfortunately are not entirely prevented. In fact, it has added some which are incidental to its ultra specialized technique. The methods found most efficient in avoiding the new hazards as well as the older complications will be considered.

Transurethral resection has proved such an advance over the older methods of treatment that it is deeply to be regretted if avoidable complications bring condemnation upon the procedure. Cabot reports from the Mayo Clinic that the mortality in the last 600 consecutive suprapubic prostatectomies was 9.5 per cent while in 600 resections, the majority of which I did, it was 1.3 per cent. A frank discussion of all possible hazards of this new method should be available.

Many of the complications following resection are attributable to errors in the preparation of the patient. In addition to the routine physical examination, blood tests, etc., roentgenograms of the urinary tract should exclude calculi of the kidneys, bladder, and prostate. In the prostate stones are usually near the periphery and have small sinus tracts to the urethra. Such tracts must be explored and the stones evacuated. To do this it is frequently necessary to incise through the internal sphincter with a Colling's knife and cut away the adjacent walls. When this is done the urine washes out the infected pocket, and it heals from the bottom instead of acting as a receptacle for urine and a focus for infection. Unless such diverticulae are removed, resection will prove a failure as far as relief of symptoms is concerned.

In addition to shortening the postoperative course resection has also greatly diminished the time of preoperative preparation. It has long been my belief that preliminary drainage of the bladder could improve the patient's condition only if there was marked renal impairment secondary to obstruction or considerable urinary infection. In the absence of these two conditions it does not seem logical that preoperative drainage can be of service. In fact, drainage may increase surgical risk by causing infection. Any indwelling urethral catheter is prone to set up infection and aggravate any that exists. Instead of operating in what was, comparatively speaking, a clean field one is forced to work on tissue recently and acutely inflamed. Prolonged convalescence, infection of the kidneys, thrombosis of the vessels of the pelvic plexus and possibly septic emboli may result; therefore, when possible, resection should be done without previous drainage by urethral catheter.

If impairment of renal function is great, or urinary infection pronounced, transurethral surgery may be contra-indicated and suprapubic cystotomy indicated. This will permit renal function to improve and inflammation of the bladder and prostatic urethra to subside. It need not, however, be made the major procedure of exposing the entire dome of the bladder, the space of Retzius opened and the perivesical tissue traumatized. If the bladder is distended with germicidal solution, the dome of the bladder is readily located through a midline incision and an opening made just to admit a catheter. Soiling and exposing of large areas are thus avoided. With such technique the patient is out of bed in a day and often can leave the hospital the third morning to return when the renal function and infection have improved sufficiently for surgery.

With suprapubic drain the possibility of bleeding following resection is considerably reduced, as the patient does not need to void through his urethra until healing is complete. However, it tends to prolong convalescence, for the patient never feels he has completely recovered until the suprapubic sinus has healed.

A cystogram prior to surgery may demonstrate diverticula that do not empty; may demonstrate deformity of the bladder, and not infrequently the first clue of a nerve lesion

which, rather than prostatic hypertrophy, may be the cause of the symptoms.

Diverticula usually shrink following removal of urinary obstruction, which demonstrates how important it is to know of prostatic obstruction in patients with inguinal hernia. To repair such hernias without relieving the urinary obstruction incurs disappointing results.

It is prior to operation that prophylaxis against infection can best be instituted. Clark, Helmholz, and others have demonstrated that the most frequent cause of urinary infection is the colon bacillus. It has great difficulty in living in a urine of increased acidity. Giving amonium chloride or other acidifying agents so that the pH of the urine is kept at 0.5 or below is an important step in preventing infection.

The most distressing postoperative complication is incontinence. Prostatic resection is done with instruments of extreme precision in an area with boundaries, varying considerably in individual cases but always decidedly limited. To remove the smallest amount of tissue beyond those boundaries endangers not alone the functional results of the procedure but jeopardizes the life of the patient. The proximal boundary of the field of operation is the veru montanum surrounded by the external sphincter. To excise tissue beyond this is to risk incontinence, and to excise the veru is to lose landmark of the safety zone.

The loop resectoscope, with which excision of tissue is performed by drawing the loop toward the operator, enhances this possibility. In the hands of the experienced the danger is easily avoided; in the hands of the novice it is of too frequent an occurrence and accounts for most of the cases of incontinence caused by the operation. Such an expert resectionist as T. M. Davis, when working close to the external sphincter, never draws the loop toward it but rather risks the possibility of excising too deeply by thrusting the loop toward the bladder. This procedure, it seems needless to add, can only be successfully accomplished by the most skilled. With my knife punch this accident is unlikely. I have never experienced it. All cutting is in one direction and the extent of a cut is limited by the size of the fenestrum. Although not the chief of my knife's advantages, it is certainly one worth considering.

The possibility of operating on a patient with an early cord bladder must ever be kept in mind. A certain degree of hypertrophy may be interpreted as the sole cause of the urinary retention when in truth it is only responsible for obstruction—not retention which is due to changes in the cord. With routine Wassermanns such pitfalls will be few; the careful urologist also will make cystometrograms. Muschat has shown that these need not be made with elaborate and intricate apparatus. If the number of c.c. of fluid that is required to produce the first desire to void is charted, it will be found that any amount, below 150 c.c. is indicative of hypertonicity and, over 250 c.c. of hypotonicity. The character of the tonus curve he feels is important, as in normal individuals the bladder pressure gradually rises until severe pain is noted. If this rise does not occur, hypotonicity must be suspected. The maximal voluntary pressure is also valuable, for like the capacity it varies within narrow limits seldom being below 40 mm. or over 60 mm. Muschat states that the part the abdominal muscle plays in this function has been overestimated and that a person with a tabetic bladder and normal muscles cannot raise the maximal voluntary pressure. He feels that when any two of the factors referred to are abnormal a neurological lesion exists.

In closing the discussion of this distressing complication of resection, it is fair to repeat that incontinence is invariably due to the lack of skill of the operator, and is not a reflection upon the operation.

The operation of transurethral resection may be profitably compared to litholapaxy, an accepted surgical procedure for over a half a century. Yet stones are removed from the bladder by suprapubic cystotomy in many cases not because cystotomy is safer, for its mortality rate is high, but because few surgeons have had training in the use of the lithotrite and prefer to use a technique with which they are familiar. When transurethral resection has reached the dignified age of lithotrity I believe it will be done only by those with adequate training, and when that utopian day arrives the complication of postoperative incontinence will not occur.

Stricture of the Urethra: In transurethral resection the urethra must receive careful consideration. When this is neglected stricture, the second most distressing postoperative com-

plication, will inevitably occur. A stricture of the anterior or pedunculous portion of the urethra can never be cured and passage of sounds is a lifelong necessity. To insert a resectoscope by force is inexcusable! The surgeon may have the satisfaction of completing his operation but the obstruction is bound to recur to plague him and his patient. If a small instrument is not available then dilation of the urethra over weeks may be carried out; it is far preferable to do a prostatectomy than to unduly traumatize the urethra by transurethral instrumentation.

While the passage of too large instruments leads to stricture leaving them in too long is a more frequent cause. Since the instrument is manipulated by grasping the overlying penis, prolonged manipulation may produce an extensive peri-urethritis. Also if the loop method is used the frequent heating of the loop tends to heat the shaft of the instrument and to dry the surrounding lubricant, thus traumatizing the mucosa. The instrument that does not slide readily back and forth should be withdrawn and re-lubricated.

Those with extensive experience assert that it is preferable to operate in multiple stages than have a long operation. A third cause of stricture is the use of too large a catheter following resection. A 22 French or less will usually allow urethral exudate and secretions to flow out along its side thus preventing peri-urethritis and possible abscess.

Meatotomy makes insertion of the instrument easier and insures better drainage of the urethral secretions. In few surgical procedures is conscientious constant attention to detail so important and its neglect so disastrous as in transurethral surgery.

Urinary Extravasation: Many deaths have occurred because the operator did not confine himself to the boundaries above referred to. If only prostatic tissue is resected urinary extravasation can not result, but if the bladder base or the prostatic capsule is perforated extravasation of urine with all its distressing results is liable to occur.

Sepsis, hemorrhage, and uremia long associated with post-prostatectomy may result but usually are less severe and more easily controlled after resection. Residual urine and postoperative dysuria are probably more frequent following resection with a loop electrode than following prostatectomy.

Sepsis: Pyelonephritis can usually be attributed to either of two causes: Interference with the outflow of urine or the introduction of a new strain of bacteria. Interference with drainage may occur from a multitude of causes all of which are preventable but many of which may be neglected. The first neglect may occur with the adjustment of the indwelling urethral catheter at the completion of the operation. If the resection has been properly done there will be no necessity of inserting the catheter by means of a stilette; it should slide in easily with the end just within the resected portion of the bladder neck. If the catheter is of soft rubber with multiple eyes as it should be, it will drain the bladder and the recently excised area. If it is of American manufacture, it will probably be of the consistency of tire rubber, manufactured to get the "mileage requirements" of the most hard boiled hospital superintendent and instead of having multiple eyes with an open end will have a closed end with possibly two small eyes which will open into a lumen smaller perhaps than the thickness of a catheter wall. It is certain to contact the posterior wall of the bladder to the great discomfort of the patient, and its stiffness and inelasticity will be a source of irritation to the already traumatized urethra. In addition to being soft, an indwelling catheter should be small enough to permit outflow of urethral exudate along its outer surface. When the catheter is properly adjusted it should be possible to freely inject several ounces of fluid into the bladder and to get it back with the same ease. Until this can be done the patient should not leave the operating room. Once this is accomplished adequate and uninterrupted drainage may be expected but its maintenance is not certain. The catheter may become occluded by clots or by kinks or pressure from the patient's rolling on it. Except the failure to remove sufficient tissue, nothing is so important for convalescence as adequate care of the drainage apparatus immediately following surgery. One is often told by a nurse that the tube became obstructed but was later adjusted satisfactorily; the next day's rise in temperature records the event by an acute attack of pyelonephritis.

The urethral catheter is to insure adequate

drainage of the bladder during recovery from the anesthesia and while clots are forming, after the urine has cleared nothing is gained by leaving it in provided the obstructing portion of the gland has been excised. I remove the catheters usually at the end of 48 hours, and often sooner.

To allow a catheter to drain directly into a urinal may contaminate the urinary tract by the introduction of new strains of bacteria. To attach it to a long tube and allow it to drain into a bottle at the bedside is preferable; but unless the tubing and bottle are sterilized, difficulty will be experienced in preventing secondary infection; in irrigating the bladder, the connection between the catheter and the tubing must be broken and one or the other will inevitably fall on the bedding, often where rectal contamination has occurred; the new organisms are then washed into the urinary tract made fertile for their propagation by the blood and serum from the operation.

I attach the urethral catheter to a closed system immediately upon the patient's return to his room. There are two types: In one the tank leads to a simply "Y" tube, one outlet of which goes to the bladder and the other to a sterile receptacle. The tube to the tank is closed except during irrigation. It is opened to adequately lavage the bladder and to insure an uninterrupted outlet to the sterile receptacle. The second system is more complicated in that there is a constant dripping of solution which fills the bladder at intervals; emptying the bladder is by siphonage. This apparatus calls for more attention. Either method keeps postoperative sepsis at a minimum, and if excessive bleeding results, insures adequate and constant drainage without the danger of introducing new strains of bacteria.

Organisms introduced into the bladder by operation or by irrigation produce immediate acute urinary sepsis and may remain in the urinary tract for weeks and even years. I cannot emphasize too strongly the necessity for the most rigid aseptic technique postoperatively if convelascence is to be short and uneventful. The nurse that tucks the drainage tube under the mattress while she empties the urine bottle, or clamps off or disconnects the catheter while she bathes the patient, may be responsible when she again connects the system for the introduction of bacteria that may defy the highest priced urinary germicides or the most rigid of ketogenic diets.

It hardly seems necessary to assert that the irrigating solution should be sterile; as gallons are generally required during the operation; sterilization of it may be a problem. If the operator will take cultures of irrigation fluids he may be surprised at the bacteriological reports and able to explain stormy convalescences that follow perfect operative technique.

Epididymitis: The incidence of epididymitis with resection is not as great as with prostatectomy. Some surgeons feel that it is not justifiable to ligate the vas deferens to prevent that which will affect but 10 to 15 per cent of cases. Ligation of the vas deferens requires but a few minutes and subjects the patient to no danger. Usually he is beyond the age when offspring are expected, so it seems advisable to insure him against a painful complication.

The technique I use is as follows: The vas deferens is forced to the anterior scrotal wall with the index finger grasped between two towel clips; it is cut down upon and a double ligature passed beneath it with a curved need. The needle being cut off, the two halves of the ligature are pulled in opposite directions one from the other until approximately one centimeter of the vas deferens is exposed. The ligatures are tied and the intervening portion of the vas deferens resected. This is always sent to the laboratory for microscopic check-up as thrombosed vessels have been ligated. The wound is closed with a single suture and dressed with collodion.

Hemorrhage: Hemorrhage was the main factor which delayed the acceptance of transurethral resection. It occurs fortunately in less than five per cent of cases; usually obstruction from clots is far more serious than the loss of blood.

Prevention of hemorrhage is best insured by adequate operation and freedom from infection. If sufficient tissue is not removed the remaining traumatized gland dose not readily heal and its sloughing surface may bleed. The tunneling of a hypertrophoid prostate to construct a new outlet is to be condemned. As much of the obstruction as possible must be removed. This is accomplished when an uninterrupted conical passage is made from the trigone to the veru montanum. To do this may require the removal of both lateral lobes as

well as the median. Anterior hypertrophy must not be overlooked, for the vascular supply of this portion is excessive, and if traumatized and congested will readily bleed.

A frequent cause of late bleeding is excessive coagulation to control bleeding. I injected the vessels of several hypertrophied prostates obtained by autopsy with solution opaque to the Roentgen ray. Immediately below the urethral mucosa in the region of the prostatic capsule the blood vessels are in the form of a plexus, but in the hypertrophied portion the vessels run parallel and are much fewer in number. If the operator resects sufficient tissue to get into this intermediate area he will have comparativly little bleeding and will not be forced to do excessive coagulation which is required if he merely cuts a short distance through the urethral mucosa or goes too far out into the prostatic capsule. With my instrument coagulation is for control of bleeding and not for excision of tissue hence less coagulated tissue is left to be later absorbed or to slough away and cause bleeding. Incised tissue heals far more rapidly than does coagulated tissue.

Burning and painful urinations seem to be in direct ratio to the amount of coagulation done. These symptoms in my experience have appeared more often with loop resection than with tubular knife removal. For this reason I believe the proper choice of instruments is the most important single factor in avoiding postoperative complications.

A SIMPLE DESCRIPTION OF SILICOSIS AND ITS COMPLICATIONS

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Silicosis supposedly is produced by silica or silicates. Silica is silicon dioxide or anhydrous silicic acid. Silica constitutes about 60 per cent of the earth's crust, forming whole mountain ranges. Silicates—salts of silicic acid—are the essential substances of clay, mica, feldspar and slate.

Jones has considerable evidence that hydrated silicate of aluminum and potassium known as sericite or secondary white mica (a fibrous mineral) hastens development of silicosis if not the main cause of it.

It is said to be difficult to find fibers of sericite in silicotic lung with an ordinary microscope and that it is much better to use a petrological microscope.

A third cause of silicosis seems to be carbon dioxide. Milky quartz contains per c.c. 200,000 to 1,000,000 cavities filled with liquid carbon dioxide and other substances. The critical temperature of carbon dioxide is 31°C., and milky quartz breathed into the lungs soon rises to 7° C.; the carbon dioxide then becomes gaseous with a pressure of 84 atmospheres—over 1,000 pounds per square inch. Silica dissolves in the alkaline fluids of the body and when the quartz walls dissolve sufficiently the cavities burst. The carbon dioxide expands almost instantly to about 400 times its former volume, therefore the traumatism produced by the explosion of the quartz cells may have a considerable part in producing silicosis, along with the ordinary effects of free silica or silicates.

Every person accumulates silica or silicates in his lungs during an ordinary life. This is one of the causes of fibrosis in almost every person from middle age on. The average person who lives 70 years has generally as much silica as his body can handle and remain in good health. Therefore, were the length of life suddenly extended from 70 to 200 years, every person would have silicosis.

Most observers consider the harmful silica particles to be about the size of tubercle bacilli; therefore, the dust seen by the unaided eye is not harmful. A tunnel cleared of dust is not safe for human occupation for a considerable time, because the dangerous dust particles still remain.

Preventive measures are only partially effective because the fine particles, like smoke or vapor, cannot be washed away by sprays of water; they merely recoil from the moisture.

The amount of silica or silicates to produce silicosis varies in different persons because some men have more resistance to it than have others. The number of silica particles of pathologic size per c.c. permitted in South Africa, where the formation is 85 per cent free silica, is 300, and is dependent upon the rock formation. The average of those devel-

oping first stage silicosis, American classification, in the average mine, develops it in about 10 years. Only a percentage of men employed have silicosis, regardless of the exposure. First stage silicosis may result by five years exposure, but many men have only first stage silicosis after 25 to 40 years exposure.

Distribution of Silica or Silicates Through Lung Tissue: Particles of silica of less than 10 microns are carried from the air cells along the lymph channels with the current until fibrosis and the accumulation of dead phagocytes obstruct the channels. Then the live phagocytes go against the lymph current and are forced out of the lymph channels into the interstitial tissues. This produces a thorough distribution of silica to all parts of the lungs. Silica dissolves in the alkaline fluids of the body and the silica sol and not the sharp particles of silica produce the lung pathology.

Uncomplicated First Stage Silicosis, American Classification, of the Peribronchial, Perivascular, Lymph Node Type: The clinical symptoms in this stage are indefinite. The patient may have colds more frequently than usual and at times an unproductive cough. The pulse, temperature and blood pressure are normal. The stethoscope is of practically no value and there is no disability. The radiograph shows an increase in size and at times density of the hila. There is sometimes an increase in the trunk shadows and always a symmetrical increase in the linear markings, extending to the periphery of the lungs, generally more marked in the mid sections. In some cases there is a haziness in the mid sections resembling the radiographic appearance of female breasts. First stage silicosis may progress rapidly or slowly and while there is no definite time for it to pass into the nodular or second stage, usually a number of years are required.

Uncomplicated Second Stage, American Classification, Nodular Type: There may be shortness of breath on exertion and dry cough; vomiting may occur; colds are more frequent than usual and there may be decrease of chest expansion. Working capacity is reduced in some cases but the majority have good color and appear in the best of health. The temperature, pulse and blood pressure are usually normal. The stethoscope may show diminished sounds but the inspiratory murmur may be changed from normal vesicular to high pitched or harshened murmur and inspiration is shortened. The expiratory murmur is decreased and prolonged. Hemoptysis occasionally occurs. The radiograph as a rule shows less prominence in the hilum shadow than that of the first stage, with nodules symmetrically distributed over both lungs, generally more marked in the mid sections. The nodules range in size from a pinhead to a small pea and are clear cut. Adhesions to the diaphragm and heart may exist, with possibly considerable retraction of the heart. Dilatation of the right ventricle of the heart occurs occasionally.

Uncomplicated Third or Terminal Stage, American Classification, Diffuse Fibrosis: Shortness of breath, dry or productive cough, and often loss of weight occur. The pulse is usually accelerated on exertion. There may be fever, especially toward the end of the third stage. Hemoptysis occasionally occurs. There is sometimes loss of appetite and diarrhea and toward the end of the third stage the patient may appear very ill. Chest expansion is progressively decreased and disability increased. There is little change in blood pressure unless changes have occurred in the heart or aorta. Respiratory sounds may be greatly diminished or one may hear any kind of sound over portions of the chest. When the respiratory sounds are clearly heard they are similar to those described in the second stage.

The radiograph shows the nodules coalescing at the beginning of the third stage, usually first in the upper mid sections of the lungs, which later result in diffuse fibrosis over fully two-thirds or more of both lungs and like everything else in silicosis, is symmetrical; occasionally over considerable portions of both lungs are small areas of fibrosis with haze in between. There is a third type of fibrosis—designated massive—resembling consolidation, of both lungs.

Some claim low grade tuberculosis exists though perhaps not demonstrable. Firm adhesions to the diaphragm, heart and at times aorta may retract heart and aorta. I have observed at post mortem adhesions not shown by the radiograph. This would perhaps prevent collapse therapy in tuberculosis, although this treatment would likely be unwise because of reduced lung capacity.

The first, second and third stages of uncom-

plicated silicosis occur usually as described or are the predominating types. Occasionally we have what is called the interstitial type, which involves the interstitial tissues and the first and second stages are absent. Great exaggerataion of chest markings alone or associated with hilum involvement are found and at about the time of the second stage there is an increase in the chest markings without nodules; hence in typical interstitial fibrosis an increase in the chest markings or an interstitial fibrosis passes directly into the third or terminal stage. Mixtures of the different types occur. The interstitial type is usually more disabling and progresses faster than do other types.

Complications of Silicosis: The investigators in the Picher field of Oklahoma, Kansas and Missouri stress the organisms of Vincent's angina as a complication of silicosis. I have rarely found these organisms in the sputum. The complications of silicosis are:

Pneumonia, lung abscesses, bronchiectasis, tuberculosis, fungi and gangrene.

The important elements in the sputa have been:

Leucocytes, endothelial cells from the alveoli, pneumococci, catarrhalis micrococi, pfeiffer bacilli, streptococci, staphylococci, tubercle bacilli and fungi.

By taking specimens from the upper part of the throat and posterior nares, I ascertained that sputum from the lungs picked up organisms from the throat membranes.

Chest irritation from sinusitis, fungi involvement or early silicosis are difficult to differentiate in a radiograph and any two or all exist together. Silicosis and tuberculosis may coexist, with silicosis predominating at one time and tuberculosis at another. If one is not careful he may give a diagnosis of a prominent silicosis with incipient tuberculosis and in the same man two years later give a diagnosis of unimportant silicosis and marked tuberculosis. This mistake can be obviated by serial pictures.

Disability in Silicosis: There is less disability in uncomplicated silicosis than is generally thought; for instance, a man may have second stage silicosis at 40 and still work at 50 with little disability. I have had only 10 years experience with silicosis, hence do not know from personal experience what happens over a longer period. Complicated silicosis of even the second stage rapidly increases the disability. The second stage in hard rock miners usually lasts about three years. I have taken men with second stage silicosis, complicated with sinusitis, infected tonsils, fungi infection, etc., and had sinuses drained, tonsils removed and fungi eliminated and have them show less disability than before, though still working in dust.

Silicosis and tuberculosis are more rapidly disabling than is tuberculosis alone. Tuberculosis associated with silicosis usually appears much later in life than does uncomplicated tuberculosis. We expect tuberculosis before 40. With silicosis it usually occurs after 40 and is fairly frequent in men of 50 to 60, occasionally with no evidence of its previous existence. This is doubtless due to an activation of latent tuberculosis. There is a slightly greater incidence of pneumonia in the early stages of silicosis than in normal persons but it acts like ordinary pneumonia. The incidence of tuberculosis increases with the stages of the silicosis.

RELATIONSHIP OF PSYCHIATRY TO THE GENERAL PRACTICE OF MEDICINE

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(Presented before the Pima County Medical Society.)

The purpose of this paper is to clarify the various ways psychiatric problems confront the general practitioner and the specialist. Psychiatric problems are not limited to obvious emotional and mental difficulties. Many patients suffer from psychogenic disturbances manifested in the form of physical symptoms.

I shall not burden you with a complicated discussion of the psychologic mechanisms of the neuroses, or a detailed exposition of modern methods of treatment. Psychiatric problems may be divided into three large groups. This classification is a rough one. The groups overlap; frequently it is impossible to distinguish between them. The first large group has obvious nervous and mental disturbances. The second has somatic complaints purely psychogenic in origin; at least no organic basis can be discovered. The third group has somatic

complaints and organic changes which apparently account for them, yet nevertheless are psychogenic in origin.

In patients with symptoms obviously psychogenic, are varying grades of mental and emotional disturbances all the way from so-called simple nervousness to severe psychoses. Into this group fall the mildly depressed and unhappy people with maladjustment difficulties —perhaps marital problems. In the severe type are encountered the more obvious psychoneuroses compulsive acts and obsessive mental reactions—incomprehensible at first glance. The compulsive acts appear from an uncontrollable fear; for example, one washes continuously to overcome infection. Obsessive thinking is characterized by thoughts, frequently horrible, recurring despite all effort to keep them out of consciousness. One woman for instance suffers from the obsessive fear that she is going to kill her children.

In this group is the phobic individual, suffering from an intense fear out of proportion to its cause; the patient frequently recognizes the cause as absurd and yet it is entirely out of control of his reasoning. Here also we find the so-called anxiety states characterized by anxious expectation and excessive worry. These patients actually seek situations upon which to express anxiety caused by factors of which they are totally unaware.

Somewhere between the psychoneurotic and the psychotic is the psychopathic individual, whose anti-social behavior stamps him as abnormal although he manifests no symptoms in the usual sense of the term. Many alcoholics and drug addicts belong in this class. Finally, as we step over the intangible line between neurosis and psychosis, are the disturbances of feeling, acting and thinking which is insanity. Here are the schizophrenic (the splitting of personality) with his peculiar absence or distortion of emotional feeling, incoherent speech patterns, delusions, and hallucinations, and the manic depressive with fluctuating moods of excessive elation and psychomotor overactivity to profound depression and psychomotor retardation. Here is the paretic with his intellectual deterioration and delusions of grandeur.

Despite the ease of recognizing this group as psychogenic in origin, satisfactory treatment is not always possible. The treatment of the psychoses excepting cases of paresis is still woefully inadequate. Hospitalization is our only recourse at the present time for most psychotics are inaccessible to ordinary psychotherapeutic procedures during the acute phases of their illness. The benefit from institutionalization is frequently temporary and superficial.

The medical profession as a whole has not recognized that drug addiction and chronic alcoholism are psychiatric problems in persons needing thorough psychiatric reeducation—difficult to apply, time consuming, and not always successful. As a result these patients are treated as moral outcasts and are punished by an outraged society; they may be incarcerated in the futile hope that the underlying psychogenic factors may be cured by removing the drug or counteracting its effects.

Perhaps because the medical profession has recognized its own inadequacy in the treatment of the psychoneuroses, it has an attitude almost of censure. Physicians have thought all too frequently that the patients could rid themselves of their symptoms, if they would only try; as a result the neurotics frequently go from physician to physician, ending up victims of pseudo-scientific cults preying upon unfortunates.

Beginning to permeate the medical profession is the fact that unhappiness, so-called nervousness, and mild states of depression, frequently resulting from maladjustments in marital problems, are psychogenic in origin. They are medical problems in that they result in mental symptoms; therefore, they belong to psychiatry.

It is the second group with psychological difficulties expressed in somatic complaints with which medical practitioners encounter the greatest problems. Hysteria and all its manifestations is no new disease; it has been recognized since the days of Hippocrates. Only recently, however, have we learned to understand the extremely complicated mechanism whereby psychological difficulties are converted into physical complaints. It is because of this interesting conversion from mental to physical that hysteria is called conversion hysteria. Time does not permit giving the reasons for one patient's expressing his difficulties in emotional form whereas another converts his problems into physical symptoms. A certain

degree of what has been termed somatic compliance is necessary before conversion symptoms occur; it may be that the somatic compliance is necessary before conversion symptoms occur; and it may be that the somatic compliance is related to the inherited physiological make-up of the individual.

Hysteria is a protean disease that simulates almost any organic condition, because of which the general practitioner as well as the specialist have to be continuously on guard. To confuse organic disease with hysteria is dangerous —frequently leading to dire consequences; hysterical coma and cerebral hemorrhage have been confused; hysterical paralyses have been diagnosed and treated as organic; the convulsions of a hysteric frequently simulate Jacksonian epilepsy so that diagnosis may be extremely difficult.

No man practicing medicine, regardless of his particular field, can completely dismiss the problem of the hysteric. The eye specialist knows how to differentiate hysterical from organic blindness and is well acquainted with the hysterical contracture of visual fields. The nose and throat man reckons with hysterical aphonia and neurotic vertigo, and must be constantly on guard not to be inveigled into operating unnecessarily upon the large group of hysterics who focus their complaints upon nose, throat, and sinus conditions. The gastro-enterologist frequently has to exert his diagnostic ability in differentiating between organic and hysterical conditions. Globus hystericus and cardiospasm are hysterical phenomena from which carcinoma and diverticula require careful differentiation. So-called nervous indigestion can be confused with gastric ulcer and malignancy. Anorexia, vomiting, pain, diarrhea, and constipation may be symptoms of appendicitis, intestinal obstruction, gallbladder disease or any of the numerous organic ailments of the gastro-intestinal tract; but the careful diagnostician is ever alert to the possibility, however, that they may be hysterical phenomena.

The gynecologist should be constantly on the lookout for hysterical conditions. The women who insist upon repeated gynecological treatments despite no demonstrable pathology are frequent visitors. Pelvic pain, backache, dysmenorrhea, and ammenorrhea are all conditions which may be psychogenic in origin and differentiation from organic conditions is always necessary. Frigidity and sexual anesthesia are almost always based upon psycho-sexual problems and is relatively rarely from organic conditions.

The genito-urinary specialist also realizes how essential it is to differentiate between organic and psychic conditions. Eneuresis is almost always a psycho-neurotic symptom and although symptomatic cure is occasionally affected by various therapeutic agents the underlying condition is usually undisturbed. We have all seen bedwetting continuing late into childhood almost miraculously cured by removal of adenoidal tissue. The cure was not directly from the removal of lymphoid tissue from the naso-pharynx, but in the psychological reactions associated therewith. The emotional factor stops eneuresis, but unfortunately it is frequently replaced by more insidious if less apparent disturbances. Impotence in the male is a more frequent symptom than we have been led to believe, but less frequently organic than the text books teach.

Incipient pulmonary tuberculosis is frequently confused with the hypochondriacal symptoms of the neurasthenic, and the so-called anxious heart gives a clinical picture difficult to differentiate from organic heart disease. The frequent absence of any pathological organic findings in angina pectoris makes it particularly difficult to rule out the pseudo-anginoid attacks of the neurotic.

The surgeon has learned to his cost that the symptoms of the hysteric can simulate organic disease so closely that differentiation may frequently be impossible. Chronic appendicitis and adhesions, to mention but two common conditions, are diagnoses which all too frequently represent the almost incomprehensible desire of these patients to be operated upon.

Unfortunately merely labeling a patient hysteric solves no problems. The picture is still further complicated by the fact that many hysterics do not wish to be cured despite their protestations to the contrary. Their symptoms have definite psychologic value to them and to a certain extent represent distorted fulfillment of desires which they cannot admit to themselves. As a result they are frequently unwilling to subject themselves to the merciless investigation which psychiatric treatment

necessitates although such is the only possible means of cure.

The third large class has unquestioned organic disease or the end stage of long-continued psychic trauma. This may seem far fetched; yet to quote Alfred Stengel, "The psychogenic nature of symptoms, functional disorders, or even of organic diseases was not unrecognized by sound clinicians of the past even as far back as Sydenham." Many clinicians of unquestioned repute emphasize the psychogenic factor in such diseases as mucus colitis, gastric ulcer, hyperthyroidism, asthma, and so-called allergic states.

If we consider the mechanisms involved this so-called jump from the psychic to the organic loses much of its mystery. A close relationship exists between emotional states and the autonomic nervous system. The ability of emotion to influence gastric secretion and motility has been carefully studied by many investigators, and Cannon in his book, "Bodily Changes in Pain, Hunger, Fear, and Rage," gives many examples of this indubitable fact. Fear and anger exert a profound influence upon general body metabolism.

Operating through the ductless glands, secretions are poured into the blood stream and then, through the sympathetic and parasympathetic nervous system, the organs are caused to respond. This explains how anorexia, nausea, vomiting, or diarrhea may be the result of emotion. Emotional states are not always conscious and a persistent unconscious emotional reaction may, through long continued disturbance of physiology, eventually lead to permanent organic tissue change.

Consider mucus colitis. Julius Friedenwald says: "Three views as to the nature of this condition have been maintained: (1) That it is purely neurogenic and that the mucus produced is entirely a nervous hypersecretion, a conclusion recently again emphasized by Bockus, Bank and Wilkinson; (2) that it is catarrhal in nature produced as a result of inflammation of the mucus membrane of the colon; and (3) that it is in part neurogenic and in part inflammatory." He concludes: "From a study of our cases together with a rather careful review of the extensive literature of this subject, we feel justified in drawing the conclusion, that mucus colitis is purly of neurogenic origin and that the discharged mucus can be considered entirely in the light of a nervous hypersecretion. This stage may continue with excerbations and remissions—recovery may occur or in some instances due to a lowered resistance of the bowel, infection may take place with the production of inflammatory changes of a more or less intense type which may eventuate in the production of an ulcerative colitis." In discussing treatment he says: "A careful analysis into the patient's emotional and mental state must be undertaken. Unless he realizes that his disability is purely functional and remediable largely through his own efforts but slight relief can be expected."

Frank Bodman in an aritcle significantly entitled "The Psychological Background of Colitis" says: "One of the ideas I do want to put forward is that ulcerative colitis may be the end result or organic consequence of functional disorder of the colon." Again, "We must bear constantly in mind that the patient cannot be separated from her colon, or the emotional state from the somatic symptom. I believe that colitis is often the somatic expression of the emotional conflict between reality and phantasy." Bodman cites cases which have been investigated psychologically and which bear out his contention that colitis is frequently at the onset of symptoms a psychogenic problem.

The idea that psychic factors may play a significant part in the etiology of peptic ulcer is new and not widely recognized. Rivers says "Von Bergmann and many other observers considered that derangement of the nervous system was the most significant single factor in the causation of peptic ulcer. Some derangement of the function of the sympathetic and parasympathetic nervous system is considered by advocates of this hypothesis to result eventually in localized spasmophilia of the duodenal or gastric musculature with consequent areas of mucosal or submucosal ischemia. In consequence, there is a diminished resistance in the localized areas which results eventually in erosion of the mucosa. The prolonged continuation of this nervous irritability tends to the production of chronic ulcer." Cushing was of the opinion that irritative disturbance of either fiber tracts or vagal centers in the brain stem were responsible for ulcer in certain cases.

Draper and Tourette write: "The gastric disturbances in cases of peptic ulcer in man, as well as the other signs of sympathetic nervous system weakness, e.g. sweating, fatigue, and wide palpebral fissures, forms a picture highly reminiscent of the sympathectomized animal. It would seem that these peptic ulcer people possess an inadequate sympathetic nervous system. This inadequacy may be the result of an inherited weakness or of a wearing out process. The latter might well follow prolonged exposure to the chronic anxiety state just referred to." Preceding this discussion Draper had recognized the existence of two sources of fear—one conscious and acute, the other subconscious and chronic. They continue: "In other words there seems to be two separate and independent sources of fear. One of these is subconscious and unrecognized by the patient. The anxiety that arises from this level has been at work over a long period. The other consciously perceived, is formed by the menacing episode that threatens life, limb or ego. The former more chronic element of this double fear attack has engaged our interest especially of late, because it appears to be almost part of the constitution itself. . . It would seem that the peptic ulcer race was composed of persons of definite constitutional type. These people possess qualities of soma and psyche which can be easily recognized. When the healthy balance of the man-environment unit is disturbed, symptoms in the domain of the sympathetic nervous system and gastrointestinal tract develop. The man-environment unit disturbance can often be corrected permanently by the use of appropriate psycho-therapeutic methods. Analytic psychology at the present seems to offer the best attitude of approach."

With hyperthyroidism we again find that we are dealing with sympathetic nervous system imbalance and there is considerable evidence that this imbalance is frequently psychogenic in origin.

Eli Moschokowitz says: "Graves syndrome is not merely a combination of signs and symptoms. The study of this disease has convinced me that there is a common denominator namely the personality I have already described which has been termed formes frustes, basedowoid and autonomic imbalance. There is no doubt in my mind that this personality is not the result of the disease as some aver. In terms of modern usage the personality may be termed part of the constitution of the disorder, although how far this personality is the result of environment or of anatomic factors still requires extensive study. . . One must conclude therefore that despite the fact that many of the signs of Graves disease are apparently the effects of hyperthyroidism, the gland itself is not the primary cause, and the changes that occur in the gland are the resultant factors. As the constant constitutional basis and the common excitant, fear, are of psychologic origin, these changes are probably the result of influence in the nervous system. It is probable that the autonomic nervous system is responsible for a considerable part of the clinical expression of the disease."

Draper in the paper quoted refers to Crile's paper on recurrent hyperthyroidism and recurrent peptic ulcer. Crile pointed out the similarity of evidence of vegetative nervous system disturbance found both in patients with exophthalmic goitre and in those with peptic ulcer. Among these patients were, for example, widening of the palpebral fissure, fatigue, decrease of body tissue and body fluid pH, sweating palms and the subjective feelings of nervousness."

Every case of hyperthyroidism is not a purely psychogenic problem and should be treated as such. This is a plea for your consideration of hyperthyroidism as a syndrome developing in a certain type of emotionally unstable personality wherein the psychologic factors, although unconcsious, may be of primary importance.

Asthma and its associated allergic conditions of hayfever, urticaria and food sensitizations are all part of a general picture of vaso-motor sensitivity. Tremendous strides have been made in an understanding of the condition known as allergy. The consensus of opinion today is that the allergic individual is sensitized to a foreign element—food, dust, pollen or bacterial antigen. This hypersensitization is vaso-motor in origin and therefore closely related to the functioning of the autonomic nervous system.

Every case of allergy is not a psychiatric problem. In many cases allergic conditions rest upon vaso-motor imbalance, in turn the result of a physico-chemical sensitivity which

has nothing to do with psychic factors. On the other hand recognizing the close relationship between the vaso-motor autonomic system and the psyche, prepared one for allergy on a purely psychologic basis. This explains why many allergic states prove resistant to all forms of physiologic therapy. Where the autonomic imbalance which leads to hypersensitivity, is psychogenic in origin thoroughgoing cure fundamentally must be psychiatric.

Conclusion: There are three groups of psychiatric problems which confront general practitioner and specialist. The first has obvious nervous and mental symptoms. The second presents varying and bizarre somatic complaints without demonstrable organic pathology. The primary etiological factor in these two is psychogenic. The last group presents unquestioned organic pathology which may result from antecedent psychogenic trauma. Therapy in the first two groups must be psychiatric in nature. In the third group those cases of organic pathology resulting from psychogenic causes can be completely cured only by proper treatment of the psychic factors.

1. Alfred Stengel, "Internist as his own Psychiatrist," Montreal meeting of A. C. P. Feb. 9, 1933.

2. Julius Friedenwald, "Mucus Colitis," Ann. Int. Med. Dec. 29.

3. Frank Bodman, "Psychological Background of Colitis." A.J.M.S. Oct. '35.

4. Rivers, "Clinical Consideration of Etiology of Peptic Ulcer," Archives Internal Med. Jan. 1934.

5. Draper and Tourette, "Man-Environment Unit and Peptic Ulcer," Arch. Int. Med. April 1932.

6. Eli Moschokowitz, "Nature of Graves Disease," Arch. Int. Med. Oct. 1930.

INFANT FEEDING IN THE FIRST TRIMESTER

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(Presented before the El Paso County Medical Society.)

I discuss feeding during the first three months of life, because in this period purely feeding difficulties most often arise, and the doctor is called for help. If an infant is fed properly during this period he has little afterward that can be directly laid to his diet; upsets of the gastro-intestinal tract in later months are then most often part of the general picture caused by acute upper respiratory infections or by contagious diseases.

Despite the circulars and magazines which state that other foods are just as good as breast milk, mother's milk is the only proper food for babies. Four-fifths of the deaths during infancy are those artificially fed; breast-fed babies are not nearly so susceptible to diseases of the respiratory tract as are the artificially fed. Practically all babies should and can receive breast milk during the first three months, if there is the knowledge and desire on the part of the mothers.

It has been said that not more than 40 to 60 per cent of the mothers in the United States can nurse their babies. Others say and I agree that 90 per cent of the babies can be nursed, at least three months. I had charge of a maternity home in which the girls were required to stay from three to six months after delivery. We had a rule that all mothers must nurse their babies on the four hour schedule; there was much opposition; we had the advantage of a disciplinary institution and the mothers were young; every mother of the 50, physically able to nurse babies, produced at least a few ounces of breast milk a day; this usually increased. Although some of the infants received complemental feeding, the breast milk once established usually persisted for three to four months. These results, of course cannot be applied to private practice.

I believe, however, that in private practice, if care is given when the baby receives his first bottle, early weaning can be avoided. What usually happens is: The mother finds on weekly weighing, that the baby has not gained as her baby book said it should; the doctor gives a formula to be used once or twice a day as needed; and the next time he sees the baby, two to three weeks later, it has been weaned. The patient should be seen daily when the bottle is first given and the mother told of the importance of nursing her baby. Frequently bottles are needed.

The average mother with her first baby, although she will not say so, feels that it is unfair and unnecessary for her to be tied down 24 hours a day for six months to nurse the baby. Discuss this with her the day after delivery and inform her that absolute confinement is not necessary. A bottle may be substituted for the night feeding, if her rest is disturbed too

much and after the second month occasionally for the two P. M. feedings; she then has an entire afternoon now and then for other activities and also has a well nourished breast fed baby. A mother who has had experience with both nursing and artificial feeding, does not need to be told which is the more satisfactory.

Many feeding troubles are to be avoided from the first day. The average baby loses more ounces than is necessary the first 10 days—due to insufficient fluid during the establishment of breast secretion.

Over a period of six months every new born baby in the institution of which I had charge, was given 100 to 150 c.c. of saline solution by hypodermoclysis and six per cent sugar water by mouth every day for three or four days. No cases of icterus or inanition fever developed and usually the weight curve did not go below the birth weight. In most cases sufficient water by mouth is all that is needed, but with jaundice and fever hypodermocylsis is indicated.

The baby should be put to the breast once or twice the first day after mother and babe are rested, and on regular schedule thereafter. Colic nearly always develops on the third and fourth days because the breasts are engorged and the baby receives too much. Manual expression, or the electric pump, should be employed to prevent soreness during the first week of lactation.

Tight fitting binders should not be applied; proper support with the so-called "aerator" may be necessary. The constant use of boric acid on the nipples is inadvisable; occasional cleansing with soap and water or with equal parts of alcohol and water if tender is sufficient.

After the fifth day usually the routine is established, and there is little trouble. In hospital deliveries however, the physician is usually called on the baby's first night at home. The young mother and father with first full responsibility suspect something is wrong. It is advisable to have at least a practical nurse for the first few home days.

The baby's weight at weekly intervals is often enough for guidance and the weighing is best done in the doctor's office. Mothers are much happier without scales in the home except in unusual cases. The milk taken at the nursings varies in wide limits, and frequent weighing will be misinterpreted. Weighing the baby before and after nursing is of little value in determining whether sufficient milk is being obtained. The weight curve over four or five days is much better.

Nearly all normal babies get too much milk; but no harm is done as the excess is taken care of by regurgitation or as excess fat. A frequent complaint is that the baby's bowels move after each feeding. This is not diarrhea and without other symptoms and with normal weight gain is no cause for worry. A baby may have six or seven green mucous stools a day and yet be happy and thriving. In such cases the mother should be reassured and the baby left alone. Babies are often brought in with two complaints—green stools and too much crying. Is it over-feeding or under-feeding? The family usually thinks the child is not getting enough, or that the breast milk is too weak. The underfed baby does not cry much unless there is practically no breast milk.

The cause of green stools and too much crying usually is too frequent nursing with an abundant milk supply. Colic and crying lead to increased frequency of nursing which in turn adds to the trouble. The diagnosis of over-feeding is made on symptoms and by determining the amount of milk the baby is getting in 24 to 48 hours. Laboratory examination of the milk is useless. Close observation of the baby is helpful. The only component of human milk that varies is the fat content. Rich milk occasionally may cause colic. This may be relieved by having the infant nurse only the first portion of milk from both breasts. If the fat content is low the baby will thrive if there is sufficient quantity.

When over-feeding exists the baby should be put on a strict four hour schedule. To cut down the nursing time to 10 or even five minutes does not work. Most normal babies get the most of their feeding in the first few minutes of nursing. Best results are obtained by complimental feedings before the breast is given. One to two ounces of plain water, barley water, casec water, or protein milk may be used, depending on the age and severity of the case. A similar procedure can be followed in dyspepsia from parenteral infection. Most text books say a sedative is not needed in dyspeptic colics. If a prescription is not given the baby will likely get paregoric. Phenobarbital,

an eighth to a fourth grain before or with each nursing, is effective and less habit forming than paregoric and something is usually necessary until the feeding is corrected. Underfeeding is best determined by the appearance of the child, such as evidence of dehydration and poor tissue turgor, and by the weight record.

If the mother's supply is inadequate, the treatment is to supply more food through regulation of nursing, stimulation of the breasts, and complimental feeding. Weaning is not to be considered. The strict four hour schedule should be maintained. Both breasts are to be given each nursing, alternating the first to be given each time. The breasts after each nursing should be thoroughly emptied by manual expression. If the amount is still too small a bottle is given after the nursing. It is important not to have the milk come too easily from the bottle, as this will quickly spoil the child for nursing.

Prepared milks are desirable for complimental feeding because they can be safely given concentrated. If the baby needs, for example, four ounces to make up a full feeding, a formula consisting of two tablespoons of whole dried milk, and one teaspoon of dextri-maltose in four ounces of water may be used. Frequently the bottle may not be emptied as the amount of breast milk varies at each nursing.

Contra-indications to breast feeding, must be decided in the individual case, except in active tuberculosis, with positive sputum, the baby should be removed from the mother at birth. In the southwest, however, are many quiescent cases that may safely nurse their babies. In eclampsia, post-partum hemorrhage, puerperal sepis and nephritis, discontinuance of the breast may be necessary for a time, but when conditions permit, attempts at restitution should be made. Nursing in epilepsy is purely a relative matter, depending on the severity of the disease. Recently an epileptic under treatment was able to successfully nurse her baby for five months. Syphilis in the child or the mother is not a contra-indication to nursing, unless the disease was acquired after the child's birth. Children with congenital syphilis are notoriously bad feeding cases, and do much better on breast milk.

Pregnancy rarely occurs during the first three months. Experience alone is sufficient to convince one of the fallacy of weaning because of pregnancy. During menstruation a slight looseness of the bowels or vomiting, never severe enough to call for weaning, may occur in the nursing. Inability to nurse previous children is no criterion. I have a patient who sincerely tried to nurse two previous children under good medical supervision without success and is now nursing a baby without difficulty. In harelip or cleft palate, the baby should be given breast milk, and an operation performed as early as possible.

In artificial feeding there has been only one outstanding improvement in the last two to three years, and that is soft curd fresh milk. Digestibility of milk depends to a great extent on the size and consistency of the curd. Evaporated and dried milks with fine soft curds therefore have been popular as infant foods. In one El Paso dairy, the cows have been given the curd test, and part of the certified milk for the past three years has had soft fine curds and is a marked improvement over the ordinary fresh milk in infant feeding. This milk can be given undiluted at an early age if the baby will take only small quantities at a feeding or in complimental feedings where concentration is necessary. Certified milk dairies throughout the country are recognizing this milk.

In conclusion: If there is proper desire and effort on the part of the doctor and mother, nearly all babies can, and should, have breast milk during the first three months of life; close observation of the baby is the best and most reliable index of proper feeding; and successful feeding depends upon close attention to what some consider unimportant details.

LUETIC MENINGITIS AND GUMMA OF THE BRAIN A CASE REPORT

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and
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A robust young white man, age 20, on May 19, 1935 had burning red eyes, his mother thought, from driving in the dust. He continued at his work on a road construction project for three more days. He developed dizziness, blurred vision, and undue hunger.

On May 23rd, he was confined to bed with nausea and vomiting, refusing to eat, saying that the sight or odor of food nauseated him. On May 24th he was in a stupor, but aroused to answer questions. When asked if he had pain, he placed his hand to his head. He did not voluntarily open his eyes. Nausea and vomiting ceased. On May 25th he was brought to the hospital comatose.

He appeared to be a healthy well developed young man in natural sleep—not restless. He did not respond to questioning nor to shaking, but reacted to painful stimuli. His tempera ture was 99.4, pulse 60 per minute, of strong voulme, blood pressure 182/92. Pupils were contracted, of equal size, not reacting to light. There was a slight patellar reflex and a decreased cremasteric reflex on the right. The Babinski was positive bilaterally.

After dilating the pupils, Dr. J. M. Britton reported: "Slight swelling around the right optic nerve; much more around the left."

His spinal fluid was clear, but under greatly increased pressure, squirting four inches from the needle. About 25 c.c. were removed. Dr. Waite reported: Globulin plus; cell count 50; Wasesrmann four plus in two dilutions.

White blood cell count was 11,500 with 70 per cent polymorphonuclears and 30 per cent lymphocytes. Blood sugar was 100 mg. per 100 c.c. A catheterized specimen of urine had a trace of albumin, about three per cent sugar, acetone positive, innumerable white blood cells, and a few squamous epithelial cells. He had recently been treated for urethritis.

After the first spinal puncture, hypertonic glucose was administered intravenously followed shortly by two grams of tryparsamide; daily mercury inunctions were begun. About six hours after the tryparsamide he responded to questions, took nourishment, and complained of no pain except burning in the right eye, but was so restless barbiturates were given. After rising to 100.2° on the second day, his temperature receded to normal.

On May 30th stupor returned. It was difficult to arouse him even for nourishment. Spinal punctures were done May 27th and 31st and June 2nd and 4th. The pressure was always increased. On June 2nd a second injection of tryparsamide—gm. 2.0—was given. The coma seemed to deepen.

About 10 A. M. June 4th a venoclysis of 500 c.c. of 10 per cent glucose in normal saline was given. The patient's condition appeared unchanged. About 2:15 P. M. he suddenly became cyanotic, and in 20 minutes was dead. According to the nurse his heart continued a short period after respiration ceased.

Post-mortem examination by Dr. W. W. Waite: The body is that of a fairly well nourished white man with no external marks of violence; there is little subcutaneous fat. The muscles are well developed. The abdomen has nothing of importance, except that the spleen is twice normal size. On section the lymphoid nodules are prominent and numerous. In the apex of the lower lobe of the right lung are several small wedge shaped hemorrhagic areas—firm and consolidated. Over the lower portion of the lobe there are other smaller hemorrhagic areas. In the left lung field there are similar areas. The kidneys have dark red hemorrhagic areas on the surface and throughout—most marked in the left. There are fine adhesions over the surface of the brain; the pia is thickened and adherent everywhere. The lateral, and the third, ventricles are dilated. On the wall of the right there is a tumor with bluish walls approximately 50 by 30 mm. of pale brownish spongy material containing fluid.

Anatomical diagnoses: Chronic meningitis; tumor of the wall of the third ventricle; distension of third ventricle; multiple pulmonary infarcts; multiple kidney infarcts; hypertrophy of the spleen.

Microscopic examination: The tumor mass has short spindle cells, numerous blood vessels and in places necrotic areas surrounded by spindle shaped or endothelioid cells arranged radially. In some of these areas giant cells are present.

Diagnosis: Gumma of the brain.

Discussion: In late syphilis, gummata (or syphilomata) of the brain and spinal cord have an incidence of six to 12 per cent. The arteries are most frequently involved; kidneys and liver are next in frequency; the brain occupies fourth place. Since spirochetes are distributed hematogenously, meningeal involvement may occur simultaneously with syphilomata.

This case is interesting because of the neurosyphilis and gumma of the brain in a man 20 years of age, the virulence of the infection, and sudden death by respiratory paralysis. Did

tryparsamide produce the infarcts of the lungs and kidneys, or did they follow intravenous injections of glucose solution? There is a medico-legal aspect in that he took a life insurance policy two months before he died; did he have symptoms at that time? Did he know he had syphilis?

STUDIES ON THE NATURE OF PHAGOCYTOSIS

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(Continued from February Issue)

Leucocytic Bacterial Substances and Leucoproteases.

Most of the researches associating leucocytes with bacterial substances were carried out before the dual mechanism of sensitizer and alexin in bacteriolysis had been worked out. In consequence conclusions were formulated from the mere facts of the presence of bacterial or hemolytic properties in cell extracts, without determining whether or not they were heat stable or reactivation was possible. Most of the earlier workers, also, paid little attention to the separation of the cells and serum of leucocytic exudates. The first to give attention to this was Hahn who, like his predecessors, concluded that bactericidal leucocytic substances were identical with alexin. Doubt was first cast upon this by Schattenfroh who worked with leucocytes extracted and suspended in physiological salt solution. He found that bacterial substances were relatively thermostable, withstanding a temperature of 56°C.

Moxter, a little later, working with cholera spirilla also came to the conclusion that the leucocytic bacterial substances were not identical with those found in the blood serum.

Patterson showed that leucocytic bacterial substances, like many enzymes and serum bacterolysins, may be precipitated out of solution with alcohol and ether; but he separates them from serum lysins and complement. Schneider has confirmed the original conclusions of Schattenfroh regarding heat stability of extracted leucocytic bacterial substances, and has shown that after inactivation by heat these substances are not reactivable by the addition of fresh leucocytic extracts. He also showed that the yield obtained from leucocytes of immunized animals is not greater than that obtained from normal leucocytes.

It appears, therefore, that contrary to Metchnikoff's first supposition, the enzymes that bring about the digestion of phagocyted bacteria within the cell are not identical with those which bring about a similar extracellular digestion. In addition to the demonstration of a definitely different structure in bacterial leuccoytic extracts, as is evdenced by their heat stability, negative evidence exists that neither true alexins nor sensitizers have been extracted from such cells. Hemolytic extracts are extremely heat resistant, are alcohol and ether soluble, and do not act as antigens. They are different from the serum hemolysins and are probably closely related to the hemolytic lipoidal substances described by Noguchi. Further strong arguments against assuming the presence of hemolytic alexin in the microphages have been advanced by Gruber, who showed that no extra-cellular hemolysis takes place when leucocytes are brought together with sensitized red cells. Neufeld later showed that even after phagocytosis of such sensitized cells hemolysis is very much slower, and of a different character from extra-cellular serum hemolysis.

It is probable, then, that digestion of bacteria and cells within the phagocytes is carried out by substances not identical with those taking part in serum lysis. It is also very probable that the intra-cellular process is dependent upon several enzymes.

In addition to the bacterial substances extracted from leucocytes a number of true enzymes, called leucoproteases, have been obtained, but after a careful review of the literature on this subject it appears that they possess no direct significance in bacterial immunity. Their function seems to lie in the reabsorption of dead tissues, fibrin, blood clots et cetera. However, it is interesting to note that the most active protease is obained from pus as it forms about acute infections or other stimuli which lead to the accumulation of polynuclear leucocytes; it is apparently absent from tuberculous pus.

We are convinced, at any rate, that leucocytic bacterial substances and alexin are not identical and that both play some part in phagocytosis.

Factors Affecting Phagocytosis.

In 1902 Leischman introduced a technique by means of which it became possible to observe the process of phagocytosis with fresh serum in vitro. The following year Wright and Douglas utilizing this technique, and improving upon it, evolved a method by which phagocytic activity could be quantatively measured with reasonable accuracy. Their researches were carried out by mixing equal volumes of bacteria, serum and leucocytes (in citrate suspension), allowing these elements to remain together at 37.5°C., for varying periods, then staining the mixture on slides and determining the degree of phagocytosis by counting the number of bacteria taken up by each polynuclear leucocyte. The most important result of these investigations was the conclusive definition of the function of the serum in the process of phagocytosis; namely, that it in no way "stimulated" the leucocytes in the sense of Metchnikoff, but acted entirely upon the bacteria, preparing them for ingestion. For this reason Wright coined the word "opsonins" (I prepare food), for the serum constituents which brought about this effect, believing them to be new antibodies entirely distinct from any other serum antibodies heretofore recognized. Wright concluded that the role of the leucocyte in taking up bacteria was entirely dependent upon the opsonin content of the serum. This viewpoint is not generally held at present as many investigators have found that spontaneous phagocytosis takes place in the absence of serum.

Wright and Douglas' work was at first done with normal serum or normal citrated plasma, and in this case they found that the opsonins were essentially unstable, being easily weakened by exposure to light or heat, and even when preserved in sealed tubes in the dark they diminished noticeably within a few days. Other writers working with opsonins in normal serum have confirmed its instability, although Wright himself admits that heating to 60° C., does not entirely destroy it, though it reduces the opsonic power to a minimum. When an animal is immunized against a microorganism, or other cellular antigen, such as red blood cells, a marked specific increase in opsonins occurs, but unlike the opsonins of normal serum these newly formed elements in the immune serum seem to possess a much greater resistance to heat.

We may accept as definitely determined, therefore, that there is a qualitative difference between the serum components which imitate phagocytosis in normal serum (normal opsonins) and those which carry out the same function to a much more powerful degree in immune serum. This is the more surprising since in the case of all other antibodies (lysins, agglutinins, etc.), it has been shown that in structure and mode of action the antibodies of immune serum are in every way qualitatively similar to the corresponding ones of normal serum, representing merely a specific quantative increase of substances originally present in small amounts.

The difference between the normal and immune opsonins has added much difficulty to the investigation of their nature, but it is immediatetly apparent that normal opsonin has the thermolability of alexin, while the immune opsonins or bacteriotropins behave, in this regard, like sensitizer.

The similarity of normal opsonins with alexin or complement has been emphasized by Muir and Martin and by many others. The fact that both are thermolabile supports this view, as does the absence or presence of both in edema fluids. Although this parallelism is striking it does not on this account mean that the two are necessarily identical. It may signify merely that the alexin is a participant in normal opsonic action, essential in that it activates a thermostable opsonic constituent just as it activates hemolytic or bactericidal sensitizer.

One of the most suggestive studies upon this question is that of Cowie and Chapin. Dean had previously shown that, although heat immune serum was capable of exerting opsonic action by itself, this action could be enhanced by the addition of a little diluted, fresh, normal serum. Cowie and Chapin, however, carried out similar experiments in which they attempted to reactivate heated normal serum by the addition of small amounts of diluted fresh serum, by itself slightly opsonic. Their results were less marked than when an unheated serum was used.

It seems fair to conclude that normal opsonins depend upon the cooperation of heat-stable and heat-sensitive bodies. The heat-

stable body, analogus to normal sensitizer or amboceptor, is specific and reactivable by the heat-sensitive body which appears to be identical with, or very closely related to, alexin.

In considering this conception it is well to remember that in normal inactivated sera the thermostable opsonins differ in action from the bodies we speak of as amboceptors or sensitizers in that they functionate for phagocytosis (entirely without alexin), while neither bactericidal nor hemolytic effects can be brought about by sensitizer alone. This fact would tend to exclude the identity of this thermostable opsonin and sensitizer and it is, indeed, an argument against identification; but in opsonic action, we remember, there is merely a sensitization to the action of the phagocyte. This phagocyte may be in itself capable of furnishing a small amount of substance comparable in action to alexin, and from our own observations, which will be detailed later, we believe this to be the case. At any rate, the phagocyte is a living cell which may well be capable of supplying the necessary activation.

It was suggested by Muir and Martin that bacteriotropins might be identified with agglutinins, inasmuch as they possessed resistance to heat, were active without apparent dependence upon alexin, and could not be reactivated by the addition of fresh normal serum when once inactivated. It was their opinion that the bacteriotropin is a sensitizer which sensitizes the leucocytes for phagocytosis as it sensitizes to alexin for bactericidal effects, and to electrolytes for agglutination. Apart from thermostability, further similarity lies in the fact that the bacteriotropins are strictly specific and may be specifically absorbed out of immune sera by their respective bacteria. Like amboceptor they are specifically increased by the treatment of animals with any given microorganisms, and may be incited not only by the injection of bacteria but of blood cells as well. Hektoen, Neufeld, and others maintain, however, that the two substances are not the same and that the bacteriotropins are distinct and independent antibodies. They base their arguments principally upon the fact that bacteriotropins lead to phagocytosis without the participation of alexin, whereas the bacterial sensitizers or amboceptors become active for lysis only when alexin is present. It by no means follows, nevertheless, from mere lack of parallelism that the two serum functions are dependent upon separate antibodies.

The preceding discussions have ignored the possibility that apart from opsonic or bacteriotropic action on bacteria there may be a difference in phagocytic energy which depends on inherent properties of the leucocyte itself. There is a considerable amount of evidence which points to differences in phagocytic powers residing in the leucocytes themselves independent of the serum. Rosenow and his associates have shown that the inherent phagocytic power of leucocytes may vary not only in health and disease, but differences may exist between the cells of apparently normal persons.

Resistance of Bacteria to Phagocytosis.

Of the three factors concerned in phagocytosis we have considered two, the serum and the leucocytes. We have still to discuss the bacteria themselves as a variable factor in determining the degree to which phagocytosis will take place.

This problem was first investigated by Dennis and Marchand in connection with streptococcus immunity. Marchand showed that leucocytes would take up non-virulent streptococci in the presene of normal serum, but under similar conditions virulent streptococci were phagocyted only slightly or not at all. He determined further, that this resistance to phagocytosis remained unchanged after the virulent organisms had been killed by heat, and washed clean of culture fluid. It seemed, therefore, that resistance depended upon the condition of the bacterial body and not upon substances given off to the environment. These experiments, as well as those of several other observers, make it clear that differences in virulence between different species of bacteria, as well as between different strains of the same organism, depend, at least in part, upon the resistance which the bacterial bodies oppose to ingestion by the leucocyte.

Rosenow studied these conditions extensively in pneumococcus infection. Seventy-five strains of this organism were all found to resist phagocytosis when first isolated and the resistant conditions was associated with virulence to rabbits and guinea pigs. It was found, moreover, that the resistance to phagocytosis

was dependent upon the inability to absorb opsonin. For, while phagocytable, non-virulent pneumococci absorbed specific opsonin from the serum, the virulent ones failed to do this to the degree of their virulence. Extraction of the bodies of the virulent organisms in normal salt solution yielded a substance which inhibited the action of pneumococcus opsonin, a true antiopsonin which Rosenow called "virulin."

These phenomena are probably not due to a special aggressive substance or virulin, but are readily explained on the basis of later information concerning the soluble specific carbohydrate haptenes and the relationship of these substances to capsular material (Zinser). That capsulation inhibits phagocytosis as it inhibits agglutination is well established. Gruber and Futaki injected capsulated and uncapsulated anthrax bacilli into guinea pigs and noted that the leucocytes would take up the uncapsulated organisms, leaving the surrounding capsulated ones undigested. This is the secret of the greater virulence of the capsulated microorganisms and it probably depends upon the fact that the soluble specific haptene concentrated in the capsule, and given off to the surrounding medium, unites with the antibody and thus diverts them from the bacterial cell which, in consequence, fails to be sensitized. The resistance of capsulated organisms to union with antibodies has often been noted. Sai investigated this problem using serum-leucocyte mixtures in which avirulent pneumococci would not grow but in which virulent ones would develop. By the addition of various amounts of soluble specific substance to the mixture avirulent pneumococci were enabled to grow as did virulent ones. Since leucocytes are not injured by the soluble substance, it seems likely that this material, by uniting with the antibodies, has protected the pneumococci in the manner in which the capsular material does for the virulent organisms.

Finally, the effects of bacteriophage on the phagocytic power of leucocytes is to be considered. Although a tremendous amount of investigation has been done on the behavior of bacteriophage we have been unable to discover a single reference to the possible effect bacteriophage may have on the process of phagocytosis. This may, indeed, be important and it is our intention to investigate this in the near future.

(To be concluded)

MEDICINE AND MEN

A Discussion of Compulsory Sickness Insurance

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(Reprinted from N. Y. State Jour. of Med., by permission of Debate Handbook. Bold face is ours.)

(Continued from February Issue.)

Let us observe what happens in European countries which have adopted this system. I should like first to address myself to conditions in England, which have been a matter of first-hand observation.

In England it is difficult for the panel physician to get all the facts from the patient. The patient knows that the record made of his history and illness is inspected by the regional medical officer as well as by the insurance commissioner of the approved society. He is therefore guarded in his disclosures concerning himself, contrary, possibly, to his best interests. There are rigid restrictions as to the cost of drugs and appliances which hamper the doctor and affect the patient's comfort. Officials pry into details of the relationship which tends to lessen the patient's respect for the doctor. Supervision of the panel doctor is exercised by divisional and regional medical officers. These executives may be asked by the panel doctor to see patients for aid in diagnosis, or they may be asked to render the same service by the approved societies over the head of the panel doctor. In 1932, 626,853 patients were thus examined. For the purpose of diagnosis, 42 were examined at the request of the panel doctor, while 1,774 were at the request of the societies. It is part of the English system that panel doctors shall certify a patient's incapacity to work, in order for him to get benefits from the fund. It is astonishing to find that for purposes of certification, not diagnosis, requests for examination by superiors to the panel doctor were 3,348 at the request of the doctor, and at the request of the societies over the heads of the panel doctors, 621,689.

What is the conclusion to be drawn from this? Obviously that the non-professional element in the medical situation demands super-

vision of the panel doctor, only slightly for purposes of diagnosis, but extensively for the purpose of getting benefits for inability to work. It is not difficult to reconstruct the typical scene which in the natural course of things is enacted in many of these instances. The approved societies are interested in keeping down the costs of medical care, preventing losses from the fund, or possibly in getting favors or preferences for friends. Their viewpoint, as they inject themselves into the situation, is not medical. They exert pressure on the panel doctor to send a man back to work who has long been idle, or to get a man certified as still incapacitated whom the doctor might possibly consider well enough to work. So, under this system, the "boss" doctor is summoned. He sees the patient, and no matter what this superior may decide, the panel doctor has in a sense lost the confidence of the patient. Perhaps, in some cases, a better diagnosis may be the result, and in others, the decision as to whether the man can work or not, may be more just by reason of this supervision. But there are only a few appeals from the panel doctor's decision that the patient need not work; most of them are to keep him from having to go back to his job. And the glaring fact in the above figures which points an accusing finger at the whole system of compulsory insurance, is that these appeals for regional or divisional doctors to supervise the work of the panel doctor were so few for the purpose of diagnosis, so many for the purpose of affecting sick benefits. There can be no other conclusion drawn from the fact that there were a total of 1816 appeals for diagnosis, and 625,037 for certification of incapacity, than that the compulsory insurance scheme breeds a relationship in which the prevailing emphasis is not the skillful treatment of disease.

It should be explained here that the Epstein law, in its present form, does not provide for sickness insurance benefits. Neither did many of the compulsory sickness insurance plans in Europe, when they were first proposed. It is but a step, and a short one, from collectivist practice of medicine to collectivist indemnity for sickness, which could be expected to follow closely, and the two would soon be identified in operating technique.

Interest aroused by the foregoing figures relative to supervision of panel doctors, induced me to turn to the 15th Annual Report of the British Ministry of Health for 1933-1934. This is a book of some 400 pages. The subject of National Health Insurance forms but a minor part of the report and even so it quotes many conditions and figures of interest to us, particularly in view of the present day agitation for this type of medical care, the more so as they are at considerable variance with those often quoted by the advocates of compulsory sickness insurance in this country.

There were 15,150,000 persons insured under the system and there were 15,500 physicians who did this type of practice. Thus, if each physician had an equal number of patients on his panel, his patients would number 970, and with a remuneration of 9 shillings per patient per year the income would be £437, or 2,185 present day dollars, but as this amount was subject to a 10 per cent emergency deduction, it is reduced to $1,967. Even this amount was not net, being subject to additional details to be mentioned later, to say nothing of income and other taxes. It must not be forgotten that all panel doctors did not have the same number of patients by any means, thus the majority had an income of less than $1,967, and the minority received larger sums. This is scarcely compatible with the quoted average of £500 to £600, or $2500 to $3000 so often mentioned in sickness insurance statements made in the United States. Let us assume that 20 per cent of the doctors do have an income of £600 or $3000, what would be left for the remaining 80 per cent? Exactly an average of $1700.

Let me analyze if you will allow, other figures quoted in the report, which are instructive to us.

The cost of medical care is detailed as follows: The total medical benefit cost was £8,420,000 or $42,100,000. Of this sum the insurance doctors received £6,077,000 or $30,385,000 divided as I have stated. The remaining £2,343,000 or $11,715,000 was allowed as follows: £1,863,080 or $9,315,400 to the insurance chemists for drugs and appliances, an average of 62 cents per patient per year. Even so there is a strong paragraph in the report on the investigation of excessive prescribing and while the accusations were numerous the convictions were few, but amounts as high as $100 were deducted from several doctors' incomes as fines.

£196,000 or $980,000 was allowed for medicines supplied by doctors personally, and £203,000 or $1,105,000 was paid doctors on account of mileage to outlying districts—averaging about $128 per panel doctor.

The sum of £63,900 was paid on account of insured persons exercising their option to claim treatment through approved institutions, and £7,250 on account of insured persons who were required or allowed to make their own arrangements for medical care. In other words, a total of $355,750 was allowed for the purposes stated.

Finally £9,000 or $45,000 was set aside for post-graduate study courses. Of this amount only £2,830, or $14,150 was used in 1933 for this purpose in grants to 102 doctors. This equals $139 each. Can you visualize what sort of post-graduate course can be had with board and lodging for this sum? Let us assume for the sake of argument that the whole amount of £9,000 or $45,000 had been used. This would mean a bit over $3 per year per panel doctor, and each one could thus be entitled to the large sum of $15 if each would seek instruction once in 5 years. These figures speak for themselves, and I quote them on account of the rosy description of this feature by the proponents of compulsory sickness insurance in this country.

I hoped as I read the report that the figures quoted would be followed by equally detailed ones concerning administrative costs. The quotations in this regard are rather involved however as they include other "benefits" so that it is impossible to figure the net cost of the sickness insurance from them. The inclusive figures as follows are of interest:

Receipts for 1933		
Contributions (Employe, Employer)	£22,020,000	$110,100,000
Interest and Other Receipts	4,870,000	24,350,000
Parliamentary Votes, Grants	5,056,000	25,280,000
Total Receipts	£31,946,000	$159,730,000
Expenses		
Medical Services (Prev. Detailed	£ 8,633,000	$ 43,165,000
Sickness Benefit	9,562,000	47,810,000
Disablement Benefit	5,095,000	25,475,000
Maternity Benefit	1,296,000	6,480,000
Other Benefits, incl. Sanatoria	2,204,000	11,020,000
	£26,790,000	$133,950,000
Cost of Administration		
Approved Societies Ins. Committees	£3,923,000	$19,615,000
Central Departments	841,000	4,205,000
	4,764,000	23,820,000
Total Expenses	£31,554,000	$157,770,000

It seems unfortunate for our purpose that administrative costs are not as detailed as those for medical services, but in any event, large sums of money are concerned.

What would be the result of such a system in our country, with all the opportunities it offers to "administrators?"

After all, the matter that concerns us most is the quality of the medical services rendered under such auspices. Much has been said and written in this regard, and I can but repeat that in my experience in England, the insured patient has little regard for his panel doctor and in the event of a serious condition, in his own words he secures a "real doctor" if it takes the last shilling he has.

From 50 per cent to 60 per cent of the patients at the free clinics of London hospitals are insured persons who could have consulted their panel doctors without cost. It is a common experience in these clinics that no actual diagnosis has previously been made by the panel doctor, not because of lack of ability on his part, but on account of the short time he is able to devote to the insurance portion of his practice.

The following is no uncommon experience at the panel doctor's office in England. Long before the office hour a line of patients may begin to form at the door. It is opened on the stroke of the office hour. Perhaps they go in one by one, or in small groups. Shortly they begin to come out of another door. This is mass medicine. It will not, it cannot, result in an improvement in preventive medicine, which is one of the chief arguments of its proponents. Yet such a claim is made in the report for 1932 of the Chief Medical Officer, who states that the 21 years' experience with the system justifies the original prediction that it would be an important factor in preventive medicine. But the London **Times** of September 27, 1934, quotes from the last available official figures, and states that among the insured population only, excluding loss due to sickness for which benefits are not payable, there was time lost to industry through sickness in 1933 a total of 29 million weeks' work, or 12 months' work for 558,000 persons. This is the equivalent of 12½ days per workman per year as compared with

9 days before the compulsory insurance went into effect. Thus there is more sickness instead of less, which should perhaps lead us to call this type of practice sickness "assurance" instead of "insurance." In Germany the loss to industry through sickness has trebled in the 50 years of sickness insurance while in the United States this average loss of time per workman per year is about 6½ days which is no increase over the figures of 25 years ago.

In support of the statement that sickness insurance does not improve the distribution of preventive medical care, I wish to quote from the Journal of the American Medical Association for April 13, 1935.

"Diphtheria morbidity and mortality rates seem to offer a fairly sound test of the quality of medical service received by a community. The conquest of diphtheria is now in process. The methods of achieving victory are known. The date of complete triumph depends on the way in which these methods are applied to the entire population. Diphtheria death rates vary directly with the extent to which these known and tested methods of prevention and treatment are made available to the population. This situation furnishes conditions, almost laboratory in type, from which to determine the social value of a medical service.

"The arguments for compulsory sickness insurance may be summed up in the claim that it removes the economic obstacles to the giving of medical service and thereby secures a wider and more effective distribution of that service. Because of the interest in the progress of this conquest of diphtheria, statistics have been gathered throughout most modern nations.

"The League of Nations has assembed the reported diphtheria cases from 1923 to 1933 for a number of countries.

"Variations in the number of cases between countries or in time within any country bear no relation whatever to the existence of insurance, unless it is a negative relation. The number of cases has increased in Germany and Austria, where the insurance system extends to the family, and also in England and Wales, where families are not included. The number of cases has declined most rapidly in Canada and the United States, where there is no sickness insurance.

"Promptness of treatment with immediate application of recognized remedies determines the mortality. Again it is noted that the rate of decline in mortality is more rapid in the English and Scottish towns, where children are not included in the insurance system, than in Germany, where they are included. But the most striking fact is that in neither of these countries has the decline been as rapid as in the United States, with no insurance. These figures for the United States, however, do not tell the whole story. This country and Canada, unencumbered by insurance, are the only ones in which there seems to be a possibility of complete victory. In 1933 the following eleven cities of considerable size had no diphtheria deaths: Duluth, Elizabeth, Hartford, Rochester, Salt Lake City, Seattle, South Bend, Spokane, Springfield, Syracuse, Yonkers. Some of the very largest cities in the United States had death rates much less than even the low average. Some of these and their death rates per hundred thousand in 1933 were as follows: Philadelphia, 0.7; New York, 1.2; Baltimore, 0.7; Chicago, 0.2; Milwaukee, 0.8; Omaha, 0.9; St. Paul, 1.1; Minneapolis, 1.4; Oakland, 0.7; San Francisco, 1.2.

Judging by these facts, the conclusion seems inevitable that the very classes for which insurance is proposed are now receiving under a system of private medical practice, in the United States and Canada, medical care far superior to that which is supplied when the same classes are put under an insurance system."

(To be concluded in April issue.)

PHOENIX CLINICAL CLUB CASE AND DISCUSSION

An American, 57, entered complaining of recurrent hemoptysis.

For years he had had chronic cough. Eighteen years before he had lobar pneumonia but had been especially well since except for chronic pharyngeal discharge and hacking cough. X-ray films taken six years before entry showed healed apical tuberculosis without evidence of activity. This impression was confirmed two years later. Four years before entry he began having slight shortness of breath upon exertion. Two years before entry he had a typical attack of coronary thrombosis with left ventricular infarct as shown by electrocardiogram. Six months before entry he had right upper quadrant pain radiating to the back, jaundice and clay colored stools which soon cleared up. Three months before admission he had hemoptysis—usually only streaking but occasionally as much as a teaspoonful of bright blood. The fol-

lowing month he was quite well but during the month before admission he developed malaise, dyspnea, weakness and a loss of six pounds in weight. During the past two weeks his temperature ranged from 99° to 102°. During this period he had occasional hemoptysis.

Physical examination showed a thin, perspiring, sleepy, elderly man. There was decreased chest expansion on the left. The left intercostal spaces were full. The lungs showed hyperresonance anteriorly and in the right back. In the left back there was dullness to flatness extending up to the midscapular region, with decreased to absent breath sounds and no transmission of vocal fremitus or spoken voice. It was not possible to determine the size of the heart because of hyperresonance. The heart sounds were heard best just to the right of the sternum, at the level of the fifth interspace. No murmurs were heard. Thee blood pressure was 85/60. Abdominal examination at this time was not remarkable. There was slight overcurving of the fingernails but no definite clubbing. Temperature was 100.8°, pulse 90 and respiration 20.

The urine was negative. The red cell count was 5,690,000 with a hemoglobin of 85 per cent. The white cell count was 17,000—83 per cent polymorphonuclears. The sputum was thick, mucopurulent, and contained small amounts of blood, numerous cocci but no tubercle bacilli; the stools were negative. The nonprotein nitrogen of the blood was 50 mg. A Hinton test was negative.

X-ray examination of the chest showed shifting homogeneous dullness occupying the left chest obliterating left diaphragm and heart border and displacing the heart markedly toward the right. In the upper left lung root there was a lobulated shadow with the appearance of large masses and numerous small dense lines extending outward. Similar lines were seen in the right apex. The remainder of the lung was clear. One film taken with the patient supine showed that the left main bronchus was smaller than the right.

After a chest tap on the second day and the introduction of a small quantity of air there was a fluid level. The heart and mediastinum were displaced toward the right. The chest fluid contained 4,700 red blood cells, and 670 white cells, 80 per cent of which were lymphocytes.

He was put on digitalis, 1½ grains a day. On the sixth day he began to vomit and complain of abdominal symptoms tremendously. At the end an ileostomy was performed which relieved his abdominal symptoms tremendously. At the end of 24 hours, however, he began to hiccup; he failed rapidly and died on the fifth postoperative day.

DISCUSSION

DR. GUY FRENCH: His recent hemoptysis was not sufficient within itself to cause his weakness, general malaise and loss of weight. The pathology is definitely located in the left pleural cavity. The comparatively low leucocytosis with an 83 per cent polymorphonuclear neutrophiles and the fever is evidence of infection which may be primary or secondary. A mass exists in left lung field causing pressure sufficient to force the heart to the right. There was fluid and pneumothorax; this fluid contained 4700 R. B. C. and 670 W. B. C., 80 per cent of which were lymphocytes. The increased pressure and the sanguinous fluid in the chest leads me to suspect a tumor as the primary pathology with a secondary infection or an activation of his old pulmonary tuberculosis. I eliminate Hodgkin's disease due to lack of other findings and the age of the patient; rather would I think of carcinoma. I have no reason for thinking it not to be primary as there is nothing in his history of physical finnings to direct my attention elsewhere except that he appears to have developed an ileus before he expired, the cause of which I think probably has no relation to the chest pathology.

FRED G. HOLMES: The presenting symptom being hemoptysis, I enumerate a few of the more common causes of it. Chronic pulmonary tuberculosis, bronchiectasis, heart disease, ecchinococcus cyst, and new growth either primary in the lung or secondary.

The history is extremely suggestive of bronchiectasis. Lobar pneumonia followed by a chronic persisting cough and expectoration makes the diagnosis of a small amount of bronchiectasis almost certain. Is it possible that the condition in the lung could be wholly one of bronchiectasis? Bronchiectasis is as likely to give bloody expectoration as is tuberculosis. Furthermore, it may give a pleurisy with effusion. The rounded masses around the hilus on the left may be retained sputum and excavation. I have not observed this in any case of bronchiectasis. Furthermore it seems that bronchiectasis could not have caused his death. If the pathology above the diaphragm was in any way connected with that below the diaphragm I believe it would not be bronchiectasis. He had a slight curving of the nails which goes with bronchiectasis; however, that diagnosis does not seem to satisfy me in this case.

From the history it is shown that he had an apical tuberculosis which had apparently healed. Is it possible that this is an exacerbation of his old tuberculosis? Cough and bloody sputum are almost routinely found in tuberculosis. However, in the great majority of cases tubercle bacilli can be found on careful examination. The fluid in the left chest would be in perfect keeping with tuberculosis, though bloody fluid is not common. This amount of tuberculosis would not kill the patient in the manner described. A complication below the diaphragm could have killed him. The description of the lobulated shadow in the left lung is hardly that of tuberculosis. Let us discuss something else possibly returning to tuberculosis later.

The history indicates definite coronary disease with occlusion two years before with moderate decompensation the last four years; however, this is hardly the type of death we would expect if the

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THE PHOENIX CLINICAL CLUB

(A Post-Graduate Study Club)

In other columns we have a series of discussions by four of a group of about 24 Phoenix physicians constituting the Phoenix Clinical Club. This group was organized in 1928 by 12 physicians. Dr. W. Warner Watkins, a former editor of Southwestern Medicine, was the promoter of the idea of this post-graduate study club; it was his thought that doctors of medicine, who devote themselves entirely or largely to special lines of practice, need to enter into general discussion of all types of cases in order to keep themselves best able to comprehend the problems of their own specialty. The oculist, the pediatrician, the surgeon, the internist, the urologist, the dermatologist, the obstetrician, etc., match wits in this club in diagnostic problems of the most difficult sort.

Eight of the 12 original members have continued with the club from the start. A ninth is with the club after having withdrawn for two to three years. The membership has been gradually increased to the present number. During the years since the club was organized a number of physicians have been invited into membership; nearly every invitation issued was accepted. A good per cent of the new members soon fell by the wayside. They seemed not to like to work as hard as necessary to carry their share of the work.

In the beginning the rules were strictly enforced allowing no absence without paying the club treasury the one dollar which would have gone for the luncheon had the member been present. Even absence from the City was not accepted in lieu of the one dollar fine for each absence. In late years fines have not been assessed and the attendance has continued wonderfully near a perfect score entirely because of the keen interest of the members.

In the main the plan of study has been to give mimeographic copies of Cabot case records to the members three or four of whom are designated to study and discuss the case. Now and then a record of a local case is given out for study.

In late years the membership has been divided into teams, with three members designated as judges. One member of each team discusses the record for study at each meeting. The judges grade the discussions after the autopsy findings are read. A team also is given certain credit for attendance and for furnishing local case records. All credits given members of a team are summed up every three or four months. The winning team is given a dinner at the expense of the other three teams.

From the enthusiasm of the members of the club, the regularity of their attendance, the rare failure of a member to be present with his discussion when so scheduled and the attention given the discussants, the members are profiting from this post graduate study. The papers prepared by the club members frequently show that extensive surveys of medical literature have been made in preparing discussions.

The Yavapai County Medical Society of Arizona started this type of post-graduate study several years prior to the time of the organization of the Phoenix Clinical Club of the Maricopa County Medical Society, and are still continuing them.

"Men and Medicine" is the title of an article which we are reprinting—serially—from the Debate Handbook and which, in our opinion,

seems to present unusually strong arguments against state medicine. Every one of our readers should read this article from beginning to end in order to clarify his mind upon the subject. The first part of the article which was run in February was in eight point, but in order to give more prominence to the article we are carrying it this time in ten point.

The medical exhibit at the Texas Centennial Exposition to be held at **Dallas** from June 6 to November 29 will have a medical exhibit telling the "Story of Life" in language understandable to the layman. This exhibit will be the greatest of its kind ever assembled on the Western Hemisphere paralleled only by the one in the Dresden Museum. This "Story of Life" will far exceed the pioneer adventure in the story of medical progress depicted at the Century of Progress and which attracted phenomenal interest and phenomenal crowds. The three main divisions will depict botanical, lower animal, and human life, showing that all depend upon similar chemical and physical processes. An interesting feature will be a huge glass model of a man which will show the complete circulation of the blood in actual motion, the relation of one organ to another, and the interdependence of all.

Associate Public Health Engineers are being sought by the United States Public Health Service. Applications for the positions must be on file with the United States Civil Service Commission not later than March 16 of this year. The Associate Public Health Engineer receives $3,200 a year and the Assistant Public Health Engineer $2,600. The competitors will not be required to report for examination but will be rated on education and experience 70 and publications and thesis 30. We are in possession of certain facts that applicants may wish.

Venereal Disease Information is a monthly abstract journal published by the United States Public Health Service. The subscription price is 50 cents. It is the desire of the Public Health Service that this booklet have a wide distribution. It is an important feature in the Public Health Program in the fight now being waged against venereal disease. Venereal Disease Information is a summary of the scientific developments in the control, treatment, and diagnosis of syphilis and gonorrhea. Abstracts from over 300 medical journals appear in it.

A POST-GRADUATE COURSE

A post-graduate course in "Neuropsychiatry in General Practice" will be held at the Menninger Clinic, Topeka, Kansas, April 20-25 inclusive. The course given last year will be repeated with revisions. Lectures, case studies, and seminars included in the five and a half day course will be exclusively directed to the application of modern neuropsychiatric principles to the cases which the general practitioner frequently sees in this field.

The course will be given by the members of the staff of the Menninger Clinic, assisted by Dr. Israel Wechsler of New York, and Dr. J. W. Kernohan and others from the Mayo Clinic, Rochester, Minn.

PHOENIX CLINICAL CLUB CASE AND DISCUSSION

(Continued from page 107)

primary cause was heart disease—coronary occlusion or heart failure. Pleural fluid may come from failing heart but more likely in the right than the left chest and it is usually not bloody. The heart as a primary cause of death does not appeal to me.

The upper right quadrant pain radiating to the back with jaundice and clay-colored stools points towards the liver and bile passages. Whether this was acute catarrhal jaundice or stones or chronic inflammation is hard to say. Perhaps there was involvement of the lungs from ameba or ecchinococcus primary in the liver. However, an amebic condition would almost certainly go to the right lower lung. Ecchinococcus cyst cannot be entirely disregarded. The lobulated mass in the lung could be from ecchinococus as could the pleurisy with effusion. However, with it primary in the liver there should be no difficulty in distinguishing it. Furthermore, the outlook for ecchinococcus disease is good—the mortality being less than 10 per cent.

One must consider carefully new growth. The findings in the lungs are entirely compatible with it. The lobulated mass around the hilus on the left, the pleurisy with bloody effusion, the narrowing of the left bronchus, all fit in. One would rather expect in such a condition, however, not to find a red count above normal with a hemoglobin of 85 per cent; he may have been much dehydrated, the increase being merely relative. The sputum, thick, purulent, and containing blood, would be an extremely common finding with new growth. In fact all of the findings in the lungs can perhaps best be accounted for by this condition. Was the growth primary in the lung with secondary metastases in the abdomen or primary in the abdomen with the metastases to the lung

or were there two entirely unrelated pathological conditions?

Were the findiigs below the diaphragm compatible with a new growth? In my opinion they were. New growth in the liver is often times silent and unless of fair size might not be felt through the abdominal wall. Frequently a disturbance in the bile tract causes only temporary jaundice though the original cause persists.

One is confronted with the terminal event of ileostomy followed by death five days later. What condition occasioned this? The surgeon must have been in desperation. Some condition must have arisen or been found which was inoperable and ileostomy was to give relief from distension and perhaps complete stoppage of the bowel. The cause must be somewhere in the lower part of the gut, perhaps a carcinoma of the colon or of the prostate; the growth may have been a hypernephroma which is exceedingly likely to metastasize to the lungs and may metastasize to the liver. The new growth may have originated in the head of the pancreas.

It is very possible that the primary cancer was in the lung and that it metastasized to the abdomen. We have seen a number of cases where this has happened. It seems most likely that this is cancer, involving structures both above and below the diaphragm. I am inclined to place the primary involvement below the diaphragm with metastases to the lung although the reverse may be the case.

DR. R. S. FLINN: In an individual past middle age the rather sudden appearance of dyspnea or hemoptysis, especially accompanied by chest pains suggests new growth of the lung. This individual had dyspnea and hemoptysis but there is no record of chest pains. Pleurisy with effusion and x-ray evidence of a mass involving the left lung root, with narrowing of the left bronchus nevertheless makes such a diagnosis justifiable.

With a history of chronic cough and x-ray evidence of healed apical tuberculosis one must seriously consider pulmonary tuberculosis. The history of the present illness, and the lack of typical x-ray findings and of tubercle bacilli in the sputum make such a diagnosis unlikely. It is conceivable that a large tuberculoma near the left lung root caused his symptoms.

It is also conceivable that he may have had a localized lung abscess but the location of the tumor and the absence of large quantities of fetid sputum are against this.

One must not fail to mention fungus infection and actinomycosis. In view of the numerous sputum examinations it is reasonable to suppose that this possibility was considered and eliminated.

An aneurysm of the aorta might account for this patient's condition, but the lack of pulsating tumor, the negative Wassermann and the clinical course of the disease leads one against such a diagnosis.

A localized bronchiectatic process should also be mentioned but there is little in the history or physical findings to suggest such a possibility.

Although Hodgkin's disease is usually mentioned in a differential diagnosis of intra-thoracic tumors, the presence of enlarged superficial lymph nodes usually makes such a diagnosis apparent. However, it must not be forgotten that in the mediastinal type of Hodgkin's disease in which mediastinal nodes are especially involved, enlargement of other lymph nodes is usually lacking. Indeed a patient may have all the symptoms and signs of mediastinal tumor—cough, dyspnea, pain and evidence of pressure—but without enlargement of superficial lymph nodes, diagnosis of Hodgkin's disease is almost impossible. This type of Hodgkin's disease is so comparatively rare as compared with carcinoma of the lung that I do not feel that we are justified in accepting this as the cause for the patient's condition.

How are we to account for the abdominal symptoms which became so prominent as to require ileostomy? If this patient is suffering from an intrathoracic tumor, carcinomatous in type, we may explain the abdominal symptoms on the basis of a metastasis to the gastro-intestinal tract. In a similar way Hodgkin's disease may be confined more or less exclusively to the thoracic and abdominal lymph nodes and may produce varied and often indefinite symptoms, such as abdominal pains, jaundice, and effusion into the abdominal cavity.

It is my impression that this individual had carcinoma of the lungs with metastasis to the gastrointestinal tract.

DR. PRESTON BROWN: The symptoms pertain to the respiratory and gastrointestinal symptoms in a man of 57 whose history dates back 18 years to an attack of lobar pneumonia; he had chronic bronchitis six years ago. X-ray shows an inactive pulmonary tuberculosis. Four years ago he had a coronary occlusion with recovery. Six months before admission he had gall stones with jaundice and clay-colored stools; his final illness of three months began with hemoptysis, continuing until his admission. He had dyspnea, weakness, loss of weight, and after admission to the hospital death as a result of intestinal obstruction. The likely possibilities include pulmonary and miliary tuberculosis, primary carcinoma of the bronchus with metastases to the abdominal organs, primary carcinoma of the gastrointestinal tract with metastases to the lungs and malignant lymphoma with tumors in the thorax and abdomen.

The patient's tuberculosis had been inactive for many years; the x-ray picture did not suggest active pulmonary tuberculosis; and fever played a small part in his illness until the very end. The outline of the tumor in the film suggests malignancy either primary or metastatic. Primary carcinoma of the bronchus is rare and abdominal metastasis of the same producing intestinal obstruction would be even more rare. I am therefore inclined to the opinion that this man had a gastrointestinal carcinoma probably in the large

bowel which was silent for several months; such is not infrequent.

The jaundice and pain which the patient had six months previous cannot be fitted into any of these pictures. A malignant tumor or carcinoma at the head of the pancreas usually produces painful jaundice which is unremitting and does not go away as in this case. This I believe represents the passage of a stone through the common bile duct and is not related to the final illness. My diagnosis, therefore, is carcinoma of the colon with pulmonary metastases and intestinal obstruction with gallstones.

(Concluded next month)

NEW MEXICO MEDICAL SOCIETY

HOSPITAL COMPLETION SEEN IN NINE MONTHS

Governor Clyde Tingley of New Mexico, announced recently that all preliminary negotiations for the Hot Springs Crippled Children's Hospital of Hot Springs, N. M., have been completed. Architects' plans and application for funds have been approved.

The Governor's statement came as festivities opened for the hospital celebration climaxed with a banquet and dance at which Governor and Mrs. Tingley headed a long list of honored guests. The program, broadcast over KOB, Albuquerque, and over KTSM, El Paso, was opened at 11 a. m. with a parade led by the State College band of Las Cruces, and followed by a barbecue luncheon. Ground was officially broken by Mrs. Tingley.

The Governor stated: New Mexico will have as fine a hospital for the treatment of crippled children as there is in the country. Cost of construction will be about $300,000 and equipment about $100,000. Other expenses such as the consulting architect's fee, cost of shipping materials, and fees for consulting physicians in connection with equipping the hospital, will have to be financed by the state. New Mexicans have helped liberally. Anything given to the foundation can be put to beneficial use. Work will start immediately, and 200 to 250 men will be employed. The hospital will be modern and equipped in the most approved scientific manner. It will have 84 beds, four 10-bed wards, 24 single rooms, six double rooms and two four-bed wards. The dining room will have a capacity of 100, designed with a stage at one end and motion picture projection room at the other. Plans call for an additional 32-bed wing if sufficient money is available.

The hosptal will have its own laundry and a central heating plant. The administration, reception, and recreation rooms and sun porches will be around a patio with the hospital units in the wings. There will be numerous terraces and porches for sun baths, two class rooms, occupational, and therapy rooms and operating unit with two operating rooms and auxiliary rooms and infirmary unit. A large outdoor swimming pool enclosed on four sides without a roof will be connected with an enclosed treatment pool. Tub, rest, and physio-therapy, plaster cast and x-ray rooms, out-buildings for brace making, carpenter and electrical shop and residence for the medical director are to be of Spanish colonial architecture. The buildings will be one-story except for the administration wing where the second story will be given over to rooms for nurses and apartments for doctors and officials. The entire first floor of the hospital will be on a level without stairs so that the children may make their way about in wheel chairs. W. C. Krueger, W.P.A. architect, designed the building, with Henry Toombs as consultant. Mr. Toombs designed the Warm Springs Foundation Hospital.

Gov. Tingley expressed his appreciation for the help given by individuals and Government agencies in making possible the hospital and expressed his thanks to the people of Hot Springs for their help in providing the site.

Minutes of the Grant County Medical Society, (Reported by Dr. B. A. Johnson, Sec., January 31, 1936, the Society convened for a dinner in Silver City, N. M., at 7:00 p.m. with 15 members and guests present. After the dinner, the president, Dr. Russel C. Lane, called the meeting to order. Minutes of the previous meeting were read and approved. The report of the treasurer for the past year was read and accepted.

The following members were nominated and duly elected to serve as the officers for the following year:

President—Dr. R. C. Lane, Silver City, N. M.

Vice-pres.—Dr. A. H. Mann, Silver City, N. M.

Sec'y.-treas.—Dr. B. A. Johnson, Santa Rita, N. M.

Delegate to State Society—Dr N. D Frazin, Silver City, N. M.

Alternate delegate—Dr. David Kramer, Silver City, N. M.

Member of Board of Censors—Dr. David Kramer, Silver City, N. M.

The following clinical program was presented:

Drs. Frazin and Lane reported an encapsulated tumor of the lung in a patient with a four plus Wassermann; the tumor disappeared after several weeks of treatment with mercurosal and iodides.

Dr. Frazin presented x-ray plates together with clinical history of a tuberculous infection of the metatarsal bone of the foot. A generous discussion of the therapeutics of this condition followed. Opinions were divided as to whether surgical treatment or conservative immobilization was the choice treatment.

Dr. Colvard of Deming, N. M., presented a case history of an adult who had typhoid fever three months ago, from which he recovered and returned to work. About a week ago, he began having temperature, with chills, enlarged spleen, tenderness over the gall bladder, malaise, negative urine. Suggested diagnoses: Focus of infection in the gall bladder, malaria, (patient has been on quinine for several days), malta faver, abscess of liver, etc. This case was liberally discussed.

Dr. McCreary presented a case of an abscess following anti-luetic injection, following which there was a high temperature of a few days' duration. After drainage of abscess and subsequent recovery, the blood Wassermann was negative. Suggested that the temperature may have been the cause of the good results.

Dr. Parker, district health officer, reported a case of scarlet fever, who was having his third attack of the disease.

After a few medical anecdotes related by Drs. Mann and Colvard, the Society adjourned at 9:45 P. M.

ARIZONA STATE MEDICAL ASSOCIATION

C. R. K. Swetnam, President
D. F. Harbridge, Secretary

THE MEDICAL QUARTER HOUR

The Medical Quarter Hour, a series of **13 weekly dramatic broadcasts,** beginning February 5 and closing with April 29, is now on the air over Station KTAR, Wednesdays at 9:30 p.m. The broadcast is sponsored by three Phoenix pharmacies who generously turned the time over to the State Medical Association.

Dr. Robert S. Flinn, radio chairman, Professional building, Phoenix, will appreciate hearing from members of the profession relative to their impressions of the broadcasts. The majority of those taking part in the broadcasts have had either stage or radio experience resulting in a favorable reception of the program by the public. Certain high schools have requested copies of the broadcasts to use with their classes in science.

The schedule for the series is:
General Subject: Family Health.
No. 1. February 5—"The Doctor."
No. 2. February 12—"The Doctor of Today and the Physician of Tomorrow."
No. 3. February 19—"Choosing a Doctor."
No. 4. February 26—"Modern Trends in Child Health."
No. 5. March 4—"Modern Health Hazards."
No. 6. March 11—"Food in Relation to Health."
No. 7. March 18—"The Art of Being Sick."
No. 8. March 25—"Sanitation Goes Modern."
No. 9. April 1—"Care of the Indigent."
No. 10. April 8—"What is State Medicine?"
No. 11. April 15—"The Family Medicine Chest."
No. 12. April 22—"Modern Medical Facilities."
No. 13. April 29—"Let's All Keep Well."

OF PROFESSIONAL INTEREST

"The Ascent of the Medical Profession" is the title of a timely article in the **Journal of American Medical Association** for January 25, 1936, page 297, which article each member of the Arizona Medical Association is urged to study and consider. The authors, Doctors B. R. Shurly and E. S. Bullock of Detroit, take exception to an article in Harper's for November, 1935, entitled "The Decline of the Professions," which is one of many treatises in magazines of nation-wide distribution and is a part, it would seem, of a general scheme to place the medical profession in a poor light with the public.

"The Ascent of the Medical Profession" is deserving of a wide publicity and it is urged that the members of the profession in Arizona not only read the article but find some means of giving it publicity.

The American Medical Association has issued the **official call** for the eighty-seventh annual session to be held in Kansas City, Missouri, from Monday, May 11 to Friday, May 15, 1936. The House of Delegates, in which Arizona is entitled to one representative, will convene on Monday, May 11. The general meeting, to which all members of the Association are eligible, will open Tuesday morning, May 12, and continue throughout the remainder of the session. With the annual meeting of the Association within convenient traveling distance of Arizona, it is hoped that a large delegation of members from the state will attend the convention this year.

ROSTER OF COUNTY SOCIETY OFFICERS

The following is a complete list of the presidents and secretaries as elected by each of the County Societies for the current year:

COCHISE:
President, Dr. C. H. Hunt, Bisbee
Secretary, Dr. O. B. Moon, Bisbee

COCONINO:
President, Dr. M. G. Fronske, Flagstaff
Secretary, Dr. Chas. W. Sechrist, Flagstaff

GILA:
President, Dr. Nelson D. Brayton, Miami
Secretary, Dr. Cyril M. Cron, Miami

GRAHAM:
President, Dr. Owen P. Heninger, Safford
Secretary, Dr. J. W. Morris, Safford

GREENLEE:
President, Dr. E. J. Gungle, Clifton
Secretary, Dr. Hal W. Rice, Morenci

MARICOPA:
President, Dr. Guy C. French, Phoenix
Secretary, Dr. H. D. Ketcherside, Phoenix

MOHAVE:
President, Dr. J. L. Barritte, Oatman
Secretary Dr. Walter Brazie, Kingman

NAVAJO-APACHE:
President, Dr. Paul D. Sprankle, Winslow
Secretary, Dr. Alvin Kirmse, Tucson

SANTA CRUZ:
President, Dr. F. T. Hogeland, Cananea, Sonora, Mexico
Secretary, Dr. Charles S. Smith, Nogales

YAVAPAI:
President, Dr. E. A. Born, Prescott
Secretary, Dr. C. E. Yount, Prescott

YUMA:
President, Dr. Charles Powell, Yuma
Secretary, Dr. W. C. Cain, Yuma

COUNTY SOCIETIES

MARICOPA COUNTY MEDICAL SOCIETY

The following officers were elected by the Maricopa County Medical Society to serve for the year 1936:

President, Guy C. French, Phoenix

Secretary, H. D. Ketcherside, Phoenix

Vice-President, Leslie R. Kober, Phoenix

Board of Censors, F. T. Fahlen

Board of Directors, W. S. Sharp, Kimball Bannister.

Library Board, F. C. Jordan, Howell Randolph

Committees named: Program, Chairman, Preston Brown, H. J. McKeown and C. C. Craig; Public Welfare, Chairman, Howell Randolph, G. C. Truman, H. R. Carson, H. L. Franklin, N. A. Ross. Medical Economics, Chairman, R J. Stroud, J. D. Hamer, L. R. Kober, M. I. Leff; Auxiliary, Chairman, J. W. Pennington, T. W. Woodman, F. G. Holmes; Membership, Chairman, J. H. Patterson, Wm. F. Schoffman, George Thorngate.

New Members. At the regular meeting of the Society held on February 3, Doctors Charles E. Borah, O. C. West, and J. R. Moore were added to the membership. Dr. Borah has recently joined his father, Dr. J. L. Borah, well known dentist, in the practice of oral surgery. Dr. J. R. Moore, superintendent of the State Hospital, formerly a member of the Yavapai society, has affiliated himself with the Maricopa group as his residence is now in this county. Dr. O. C. West, recently returned from several years in China, is now affiliated with the staff of the Maricopa County Health Department.

REGULAR MEETING

The **regular meeting** for March was preceded by a dinner held at Hotel Westward Ho, with a majority of the membership in attendance. The following scientific program was given at the conclusion of the social hour:

1. "Non-convulsive Toxemia of Pregnancy," by Dr. Dudley Fournier.

2. "Modern Aspects of Treatment of Eclampsia," by Dr. Benjamin Herzberg.

3. "Hormone Therapy in Gynecology," by Dr. Clarence B. Warrenburg.

The following diagnostic report elicited much amusement and applause recently at the Phoenix Clinical Club, and added something of humor to the usual discussions:

A DIAGNOSIS OF TRICHINOSIS

by Preston Brown, M. D.

We have here a Wop both sturdy and strong
Whose non-fatal illness was decidedly long.
One day he had pork chops cooked rare by his wife,
By eating the same, he nigh lost his life.
Trichina spiralis entered his gut,
They set up housekeeping and started to rut.
The little ones migrated into his blood,
Poor Tony vomited, but it did him no good.
But then he felt better while the larvae spread
To his muscles and diaphragm but not to his head,
And there they set up a severe inflammation
All the symptoms typical of this infestation.
The increase of "eosins" is clearly described;
To this diagnosis I have surely arrived:
The lung complications are found, oh alack,
To postpone the recovery of this poor boot-black
And since he recovered though the case is proved,
I'm sure that a biopsy the Docs did remove.
Like Shylock of old, they seized on some flesh
'Tween the striped muscle fibres found the causative wretch.
So what is the moral, my friends good and true?
Never eat pig 'till it's cooked through and through.

GREENLEE COUNTY SOCIETY NEWS

The monthly meetings of Greenlee County Medical Society are held on the first Tuesday of each month. Dr. E. J. Gungle of Clifton is president of the Society and Dr. Hal W. Rice of Morenci, secretary.

The Greenlee County medical men have secured space in the county newspaper for notice regarding the MEDICAL QUARTER HOUR, coming over Station KTAR each Wednesday at 9:30 P.M. This is a forward step and will serve in keeping the local public informed on any and all programs given by the profession.

NEWS ITEMS

The Pima County Hospital is having a new wing. The work is being done by the W.P.A. Nearly 8,000 square feet of floor space will be in the new addition. A warm pool for infantile paralysis victims is planned.

A Community health center has been established at Willcox, Arizona, under the administration of a nurse. This is part of the W. P. A. program.

C. W. Sult, Jr., M.D., son of Dr. and Mrs. Charles W. Sult of Phoenix has been appointed interne in Los Angeles County General hospital taking his position about the first of July.

Dr. and Mrs. A. E. Cruthirds of Phoenix spent a short vacation in California during January.

Dr. Bernard Lee Melton and Miss Marie Rhea Linsenmeyer of Phoenix motored to Tucson during February and were married, returning after a few days to establish a home in Phoenix.

Dr. F. C. Goodwin, Wallace Perry and Mrs. A. F. Quissenberry of El Paso spoke at the banquet in Hot Springs when announcement of completed plans of the New Mexico State Hospital for Crippled Children was made.

Dr. W. R. Jamieson spoke on "Military Medicine" at the meeting of the Woman's Auxiliary to the El Paso County Medical Society in the home of Dr. and Mrs. Paul McChesney at 401 Robinson Blvd. The assisting hostesses were: Mesdames W. W. Britton, W. R. Jamieson, Branch Craige, John W. Tappan, I. J. Bush, A. H. Butler, W. R. Curtis, Gerald H. Jordon, J. W. Laws, J. L. Murphy, Herbert Stevenson, Walter Stevenson, James A. Pickett, and F. P. Schuster.

Dr. Edgar H. Brown, orthopedist of Phoenix, has his offices at his home, instead of at the Professional Bldg., where he formerly had them.

Dr. Meldrum K. Wylder of Albuquerque, New Mexico, passed the examination given by the American Board of Pediatrics and has been certified by them as a licentiate of the American Board of Pediatrics, according to an announcement in the American Journal of Pediatrics.

Dr. Brick Pomeroy Storts of Tucson is now a li-

centiate of the American Board of Pediatricians, having taken the examination November 19th and 20th, 1935, in St. Louis. Of 31 men who took the examination only 25 passed.

Dr. J. W. Taylor, wife and two children, formerly of Ohio, have arrived in Fort Sumner, New Mexico. The Doctor is to be associated with Dr. A. F. Brown.

Dr. C. C. Craig of Phoenix was called East during February to the death bed of his father, Dr. R. H. Craig, who had been ill for two weeks. His father was a native of Charleston and had practiced there 36 years.

Dr. Geoffrey Morris, director of the Gila County Public Health Unit, died of pneumonia at the Gila County hospital, February 25th.

Dr. Joseph D. Vertin, Phoenix, was found dead under a tree on the desert about 200 yards north of the Arizona canal and 100 yards east of 16th street on the morning of February 24th. Dr. Vertin had not been in good health for years. We are informed that he had strolled out on the desert and probably had been stricken suddenly with a heart attack. Dr. Vertin had been a resident of Phoenix for a number of years, but during the last year or so had been physician for a C.C.C. camp. He returned to Phoenix, only recently.

Dr. C. R. Swackhamer of Superior, Arizona, member of the Board of Managers of Southwestern Medicine, called upon the editor and made a few helpful criticisms and suggestions about the magazine. He is always interested in the welfare of organized medicine.

The Arizona Public Health Department under the guidance of Dr. George C. Truman is expanding with the idea of taking advantage of the provisions of the security legislation.

Charles Stewart Mott, Vice President of General Motors Corporation, Flint, Michigan, and Mrs. Mott, the former Ruth Rawlings of El Paso, are the parents of a daughter, Susan Elizabeth, born February 13, 1936 at 11:30 A. M. at Providence Hospital. The baby weighed seven pounds and two ounces. Mrs. Mott was attended by her father, Dr. Junius A. Rawlings, her brother, Dr. Mott Rawlings, and by Dr. Erich Spier. The baby was named Susan for Mr. Mott's grandmother, the late Susan Turnbull Stewart, and for Mrs. Mott's aunt, Elizabeth Rawlings.

A daughter was born to Dr. and Mrs. Erich Spier on Sunday, February the 16th at the Providence Hospital, weighing about four lbs. This is their second child; the first is a boy of three years. The child is gaining weight and doing nicely in the incubator at Hotel Dieu Hospital.

SOUTHWESTERN MEDICAL ASSOCIATION

The Executive Committee of the Southwestern Medical Association announces the Program Committee for the 1936 Meeting and Clinical Conference.

Program Committee, chairman—Dr. E. W. Rheinheimer, El Paso.

Scientific Exhibits—Dr. L. O. Dutton, El Paso.

Commercial Exhibits—Dr. Robert B. Homan, Jr., El Paso.

Dr. E. W. Rheinheimer has appointed the following committees:

Clinics—Dr. F. O. Barrett, El Paso.

Advisory Program Committee: Drs., Meade Clyne, Tucson, Arizona, E. J. Cummins, El Paso, Fred B. Evans, Alamogordo, N. Mex., F. T. Hogeland, Cananea, Sonora, Mexico, John D. Lamon, Jr., Albuquerque, N. Mex., Howell Randolph, Phoenix, Arizona, S. A. Schuster, El Paso.

Dr. L. O. Dutton plans to obtain national exhibits but desires exhibits from members of the Association.

BOOK REVIEWS

The 1935 *Year Book of General Medicine*, Edited by George F. Dick, M.D., Lawrason Brown, M.D., George R. Minot, M.D., S.D., F.R.C.P., William B. Castle, M.D., A.M., William D. Stroud, M.D., and George B. Eusterman, M.D.; The Year Book Publishers, Inc., 304 So. Dearborn St., Chicago.

An extensive review of these Year Books is unnecessary. By reading them one is assured that he has not missed the important advances of the year. For example, on page 615 and several pages thereafter are discussed the influences of thyroidectomy upon heart disease; if one wishes to know about the latest advances in electrocardiograhy or rheumatic heart disease, he will find it here, etc., etc. The book is highly recommended to those who do not have access to the extensive authentic medical literature.

The 1935 *Year Book of General Surgery*, Edited by Evarts A. Graham, A.B., M.D., Prof. of Surgery, Washington University School of Medicine; Surgeon-in-Chief of the Barnes Hospital and of the Children's Hospital, St. Louis; The Year Book Publishers, Inc., 304 So. Dearborn St., Chicago.

This book is to surgery what the 1935 Year Book of General Medicine is to general medicine. The Year Books have been so well and favorably known in the past that little need be said about this volume. It is almost indispensable to those who are not in contact with the extensive medical literature of today.

Annual Report of the Surgeon General of the Public Health Service of the United States for the Fiscal Year 1935; Treasury Department Document No. 3073, Public Health Service; United States Government Printing Office, Washington, D. C.; 1935; Cloth; 75c.

This is a small book of 158 pages with an index giving the report of the Public Health Service of the United States for 1935. There is a great deal of data and interesting information in this report. A picture of the buildings of the Lexington Narcotic Farm is shown; it gives a description of the work already begun there. The divisions of farm and insular quarantine and immigration have a most interesting report well worth reading.

LETTER RECEIVED BY A PHOENIX DRUGGIST

Please if possible for you fine out name of Prof. Dr. in your State he is cure wiht Snakes Medecines. like Hoemorhoids maild Bronchitis. few years ago I did read some about it. now Remain with Respectfully.

PROGRAM

Arizona State Medical Association --- Nogales, April 23, 24, 25

HEADQUARTERS
Hotel Montezuma
MEETING PLACE
U. S. Government Camp, North Grand Avenue
INVOCATION
Rev. O. A. Smith
ADDRESSES OF WELCOME
ANDREW BETTWY, Mayor, City of Nogales
DR. F. T. HOGELAND, President, Santa Cruz County Medical Society

ENTERTAINMENT FOR MEN

Thursday, April 23rd

12:15 P.M. Luncheon
5 to 6 P.M. Social Hour, Hotel Montezuma.
5:00 P.M. Cock Fights, Aztec Club, Nogales, Sonora,
7:00 P.M. Smoker and many entertainment features

Friday, April 24th

12:15 P.M. Luncheon
5 to 6 P.M. Social Hour, Hotel Montezuma.
7:00 P.M. Annual Banquet and President's Ball, Cavern Cafe, Nogales, Sonora, Mexico; many entertainment features, and the raffling of many useful and beautiful prizes.

Saturday, April 25th

The International Golf Course will be open to all doctors during the convention and you are urged to enjoy your golf-game as often as you wish. Your badge will admit you.

5:00 P.M. Special excursion to Guaymas (Old Mexico) leaves Nogales.

LADIES' ENTERTAINMENT

Thursday, April 23rd

Registration
11:00 A.M. Executive Board Meeting
1:00 P.M. Luncheon
3:00 P.M. Sight-seeing trip to all points of interest in Ambos Nogales.
5 to 6 P.M. Social Hour, Hotel Montezuma.
7:30 P.M. Banquet, Cavern Cafe, Nogales, Sonora, Mexico, folllowed by many entertainment features.

Friday, April 24th

Registration
9:30 A.M. General Business Session
10:00 A.M. Visit to Scientific and Commercial Exhibits.
11:00 A.M. Annual meeting of the Arizona State Medical Auxiliary.
Address by Dr. Isaac H. Jones, "Medical Aviation."
1:00 P.M. Luncheon
2:30 P.M. Business Meeting
5 to 6 P.M. Social Hour, Hotel Montezuma.
7:00 P.M. Annual Banquet and President's Ball, Cavern Cafe, Nogales, Sonora, Mexico; many entertainment features, and the raffling of many useful and beautiful prizes.

Saturday, April 25th

The International Golf Course will be open to all ladies during the convention, and you are urged to enjoy your golf-game as often as you wish. Your badge will admit you.

5:00 P.M. Special excursion to Guaymas (Old Mexico) leaves Nogales.

Eye, Ear, Nose and Throat Specialists, Take Notice: Dr. Roderic O'Connor, arriving in Nogales Wednesday, April 22nd, is desirous of having several **squint cases** for operation. Any one furnishing a case will be permitted to assist Dr. O'Connor. Cases should arrive in Nogales not later than noon, April 22nd, and report at the office of Dr. Charles S. Smith, where Dr. O'Connor will make his examinations. There will be no charge for the operation, and the hospital expense should not exceed $15.00. Operations will be performed Thursday, April 23rd. Those having cases are requested to communicate with Dr. Charles S. Smith, Nogales, Arizona.

Mr. George W. Spratt and Mr. Leonard Manes of the **George W. Spratt Optical Co., Los Angeles,** and Mr. Roy Ryan and Mr. William Ackerman of the **Superior Optical Co., Los Angeles,** will be at the meeting of the Arizona State Medical Association and will run the motion pictures, slides, etc., for the speakers, without charge, furnishing the machines and screens.

MANY USEFUL PRIZES

When you register—both men and women—be certain to obtain your "commercial exhibitor's card." Take this card to each exhibit, obtain the signature of the representative, drop the card in the box at the registration booth and become eligible for the raffle of several beautiful and useful gifts. The raffle will take place at the banquet, Friday night, April 24th. Your presence at the banquet is absolutely essential in order to participate in the raffle. Gifts have been donated by the following firms:

A. S. Aloe Company—a $25.00 Physician's Bag.

General Electric X-Ray Corporation—a $40.00 Hotpoint electric mixing outfit.

Southwestern Surgical Supply Company—a beautiful pair of Health-O-Meter bathroom scales.

Spicer and Company—a 40-cc. vial of edwenil, and a copy of the book entitled "Endotoxic Infections and Their Control with Edwenil."

Philip Morris and Co., Ltd.—Two cartons Philip Morris cigarettes.

The Harrower Laboratory—A package containing three of their more recent products, correlin, endothyrin drops and endophrin inhalant.

Cavana Cigar Company—A box of cavana cigars.

Bristol-Meyers Co.—A dozen packages of Ipana tooth paste.

Cutter Laboratories—$25.00 merchandise order.

American Optical Company—a beautiful $50.00 pair of binoculars.

Kelly's Prescription Shop and Arizona Brace Shop—A nice Cutex and maplewood set.

The Cavern Cafe and Bar—a beautiful hand-woven Mexican serape.

The American Chicle Company through the kindness of Mr. H. W. Schaaf of Phoenix will keep the ladies and doctors supllied with plenty of their fine flavored gum during the meeting.

COMMERCIAL EXHIBITS

Philip Morris and Co., Ltd., Inc., N. Y. City, manufacturers of Philip Morris Cigarettes, has been studying the effects of smoking on the mucous membrane of the upper respiratory tract. In the booth Dr. L. B. Troxler, a member of the research staff, will explain the work and results obtained. Cigarettes will be distributed and furnished for all social functions during the convention.

Spicer and Company, Glendale, Calif., will feature edwenil, a polyvalent antibacterial agent for various endotoxic infections such as the respiratory diseases, boils, measles, etc. This is a stable, colloidal, protein-free (by Biuret Test) for intramuscular injection, and raises resistance to endotoxic infections without causing detrimental reactions, either local or general. Full information will be available at the booth. This firm has offices in New York, Chicago, Dallas, Texas and Portland, Oregon—Dr. H. E. Kirschner in charge.

The Harrower Laboratory, Inc., Glendale, Calif., will feature high-quality endocrine products—effective pluri-glandular formulas, and an extensive line of endocrine active principles. Their products are available in sanitablets, capsules, and drops for oral use, and in solution for intramuscular injection—full information available at the booth. The Harrower Laboratory, Inc., has offices in New York, Chicago, Dallas, Texas, and Portland, Oregon—Mr. J. P. Casey in charge.

Southwestern Surgical Supply Company, Phoenix, Arizona, will have on display a full line of surgical and hospital equipment including McKesson Nargraf gas machine, McKesson oxygen tent; McKesson Metabolor; Kelly Koett Portable Shockproof X-ray machine; Lee De Forest, Burdick and Liebel Flarsheim short wave diathermies; Tompkins tonsil suction machine and Davidson pneumothorax machine—Mr. W. B. Robinson in charge.

E. R. Squibb & Sons, New York, N. Y., will display a full line of Squibb products—Mr. H. R. Chowning in charge.

General Electric X-ray Corporation, Chicago and Los Angeles., will display their portable shock proof X-ray equipment, and their new short wave diathermy, known as the inductotherm, and numerous other items of interest to the profession—Mr. Harry Thuresson in charge.

American Optical Company, Los Angeles, will display their 116 ophthalmomter, otoscope, giant ophthalmoscope, May ophthalmoscope, macula retinoscope, transformer, sight-lite unit and meter, ophthalm-o-graph and metron-o-scope, projecto chart and screen, Robinson-Cohen slide, lensometer and the 589 phoroptor—G. J. McLoughlin, C. L. Proctor, J. C. Watts and Stanley Smith in charge.

A. S. Aloe Company, St. Louis and Los Angeles, will display a complete line of surgical instruments and hospital equipment—in charge of Mr. H. H. Hall.

Kelly's Prescription Shop and Arizona Brace Shop, Tucson and Phoenix, Ariz, will display lettering of Kelly's prescription shop and artificial limbs, and several types of orthopedic appliances, including braces, arch supports, various models of surgical garments, supporting belts, trusses and like appliances. Mr. Kelly and Mr. Aunger will give practical demonstrations on braces and artificial legs. Mrs. Aunger will demonstrate lady's garments and model same if necessary. This exhibit will be unique in that it will give the medical practitioner first-hand information regarding the construction and fitting of the various articles exhibited and the professional pharmacy display of articles used in dispensing.

Stokely Brothers and Company, Oakland, Calif., will display Stokely finest foods, not only for the baby, but the entire family—in charge of Mr. G. C. Pugh.

Mead Johnson and Company, Evansville, Ind., will exhibit a full line of Service and Mead Johnson products, together with a number of interesting and instructive scientific motion pictures—in charge of Mr. D.O. Tigher.

Cutter Laboratories, Berkeley, Calif., will exhibit their complete line of vaccines, antitoxins, and allied specialties—such specialties as pollen extracts for the diagnosis and treatment of hay fever and the Cutter line of liter saftiflasks of dextrose and other solutions for mass intravenous therapy—in charge of Dr. J. P. Jacks.

SCIENTIFIC EXHIBITS

For the 1936 Meeting of the Arizona State Medical Association.

Metropolitan Life Insurance Company, N. Y. City, will exhibit charts showing **cancer deaths** in the U. S., compared with those from other causes, chances at each age of eventually dying from cancer, chief **sites of cancer** in men and women, by age groups, **trend of cancer death rate** by site, by age groups, and **curability of cancer** in certain sites as reported in recent medical literature. A booklet entitled "Progress in Cancer Control" will be distributed.

American Society for the Control of Cancer, N. Y. City, will have an exhibit of **cancer** of the **uterus** and **cancer** of the **skin, with particular reference to melanoma, wax models, histories, charts,** etc. **Moving pictures** and film slides will accompany the exhibit. There will be a **meeting for the laity** during the convention and this picture will be shown and several addresses delivered. This exhibit is through the courtesy of Dr. E. Paine Palmer, Phoenix, Arizona, who has assumed all expense in securing the exhibit.

Arizona State Board of Health, with **Phoenix Indian School,** reproduces the exhibit given by the **Wisconsin State Plumbing Board** during the Natinoal Public Health Association meeting in Milwaukee. It has been constructed by the Phoenix Indian School. **Community Sanitation Exhibit** of charts and diagrams of the tendency of various communicable diseases in the state. Materials used in the public health education program of the State Board of Health will be displayed. Mr. O. V. Cooper, Assistant State Director of Community Sanitation and Mr. X. E. Doucette, Secretary of the Arizona State Board of Health will be in charge.

Drs. Glenway W. Nethercut and Thomas D. Allen, Chicago, will have an exhibit entitled **"First Aid in Eye Injuries"** which was displayed in Atlantic City last June at the A. M. A. meeting and should be of particular interest to both ophthalmologists and general practitioners.

Dr. S. H. James, Manager, Veterans Hospital, Tucson, Ariz., will have a photographic exhibit of x-rays showing various lung lesions and results of therapy.

The Wyatt Clinic, Tucson, Ariz., will have a series of charts giving graphic data on arthritis.

American Medical Association, Chicago, will have a small exhibit on **tuberculosis**—especially the cutaneous manifestations—cutaneous manifestations of **syphilis,** prevention of **eye injuries, objectionable cosmetics; patent medicine and quackery; vaccines** and **serums;** and **"the doctor prevents disease."**

Dr. Hans Barkan, San Francisco, will show the O'Connor operation by motion picture, a description of which is as follows: "Insertion of speculum with rubber dam to prevent contact of sutures with skin; incision of conjunctiva and uncovering of external rectus tendon; grasping this tendon with the forceps and bringing it up into view; buttonholing conjunctiva; sliding scissors under tendon to hold it in place; removal of fascia of tendon so that tendon fibers are exposed; splitting of tendon, O'Connor splitter, wrapping of B and B dermal medium around and over the tendon splits, then tightening of dermal with consequqent shortening of tendon to approximate tissues closely; suturing of conjunctiva, then exposure of internal rectus and myomectomy just behind tendon to reduce strength of internal rectus and obtaining temporary paralysis; then suture. Position of eye under anesthesia will be shown."

Dr. Richard O. Schofield, Boulder City, Nevada, will present a number of films of interesting **fracture** cases at Boulder dam.

Drs. John E. Bacon and William B. Watts, Jr., Miami, Ariz., will present a number of films of interesting cases of silicosis.

Drs. Soiland, Costolow and Meland, Los Angeles, will present a number of film transparencies showing various stages of **cancer,** and several **before-and-after treatment series.**

The United States Public Health Service will have an exhibit on **trachoma.** Dr. Paul G. Eilers and Miss Ethel Cunningham of the Service—both highly experienced in trachoma, will be present and will be glad to see any cases of trachoma and discuss them with the attending physicians. If you have a case you wish Dr. Eilers to see, write Dr. Charles S. Smith, Nogales, Arizona, and make the necessary arrangements for presenting your case at the meeting.

Dr. Frank T. Hogeland, Cananea, Sonora, Mexico, will present x-ray films, histories, etc., of **silicosis.**

Pathological Laboratory, Phoenix, Ariz., will exhibit (1) **Configuration and Mensuration of the Heart Shadow**—demonstrating changes in size and shape of the heart produced by various heart lesions; colored films will show the chambers of the heart of the normal silhouette in frontal, lateral and oblique views; the changes in configuration and size produced by various types of heart disease will be shown; methods of measuring the right and left sides will be demonstrated.

(2) **Bone Anomalies of the Spine, Foot and Wrist**—illustrating the dangers of confusing these anomalies with injuries and the difficulty in differentiating them from traumatic lesions.

PARTIAL PROGRAM—Complete Program in next month's Southwestern Medicine.

EL PASO COUNTY MEDICAL SOCIETY

The meeting was called to order at 7:40 P. M. January 27, 1936, by Dr. B. F. Stevens at the Hotel Dieu Nurses' Home. Minutes of the previous meeting were read and approved. Dr. Stephen Schuster arrived and Dr. Stevens relinquished the chair to him.

Dr. W. W. Gay read a paper on "Silicosis" and demonstrated with typical radiograms of silicosis. Discussed by Drs. R. B. Homan, Sr., Egbert, Dutton, Laws, Waite, Gallagher, Schuster and Gay.

Dr. W. R. Jamieson read a paper "Treatment of Gonorrhea," discussed by Drs. Multhauf, Hardwick, Thompson, Curtis, Dutton, Gallagher, Haffner and Jamieson.

Case reports were submitted by Dr Harris (City-County Hospital Intern); Dr. Waite gave autopsy reports.

A motion was made by Dr. Gallagher that the El Paso County Medical Society request the staff of the City-County Hospital through their Board of Managers to invite the Medical Society to meet there. Motion was seconded by Dr. Multhauf. Motion was passed, 15 voting in favor of the move and 11 against it.

Dr. McCamant made a motion to reduce the dues for the current year from $18.00 to $14.00. Motion was seconded by Dr. Marrett and approved, 17 voting in favor of the reduction and seven against it. Meeting adjourned at 9:57 P. M. L. O. Dutton, M. D., Secretary.

Meeting of January 13th.

Dr. Rennick's paper on "Infant Feeding in the First Trimester" was presented.

Discussion: Dr. B. F. Stevens desired to know the role of allergy in the feeding of infants in the first three months.

Dr. Werley stated that he felt that mother's food undoubtedly affects their milk.

Dr. Dutton stated that mother's milk often causes colic in infants and this is best relieved by eliminating from the mother's diet those foods to which she is sensitive.

Dr. Gorman quoted Alvarez as stating that over-cramming with food is one of the most serious mistakes in early infant feeding and that there is today too great a tendency to the use of vegetables early and that too great a gain in body weight of the child is a detriment rather than a help.

Dr. S. Schuster requested Dr. Frank Schuster to discuss some anomalies (congenital) of the oropharynx.

Dr. Frank Schuster stated that among numerous development defects in children such as pyloric spasm, club foot, meingiceal, etc., cleft palate was one that caused great difficulty in infant feeding. He stated that the giving of the mother's milk to such children greatly increases the child's strength and greatly increases the child's chance in his fight for life and that as soon as the child's condition permits it, repair of the left palate should be undertaken. Constant feeding with mother's milk throughout the pre-operative and post-operative period is most essential.

Dr. C. W. Awe asked if a woman with tuberculosis should nurse her child and also asked if it

BLUE
vs.
GREEN SMOKE

A CLAIM that one cigarette is better because its smoke is green while that from all others is blue—would carry no weight unless it could be proved the green smoke is better for the smoker than blue smoke.

In the same light should be viewed claims of differences in manufacture. Philip Morris are made different—but *only* Philip Morris have been scientifically proved, because of that difference, to be less irritating than other cigarettes.★

Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245★
Laryngoscope 1935 XLV, 149-154★
N. Y. State Jour. Med. 1935, 35—No. 11,590★

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★Reprint of papers from N. Y. State Jour. Med. 1935, 35—No. 11,590; Laryngoscope 1935 XLV, 149-154. Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245. ☐

★★For my personal use, two packages of Philip Morris Cigarettes, English Blend. ☐

*SIGNED:*_____ M. D.

ADDRESS_____

CITY_____ STATE_____

causes a quiescent case to develop into an active one.

Dr. Rennick in closing stated that allergy is not as common a cause of colic as is thought. It is important not to use foods other than milk too soon. All cases of cleft palate should be operated on early. The breakdown of the quiescent tuberculous mother at six weeks is due more to her loss of sleep, continuous anxiety and increased nervousness than it is to the actual breast feeding itself. Stimulation of breast milk by injections is not thought to be of value.

CASE REPORTS: Dr. R. B. Homan, Jr., gave the case report of a woman, age 25, with thoracoplasty, who had a large abscess pointing on her side following each of the three stages, secondary in character, with no tubercle bacilli present and who now has a pocket at the level of the eighth rib with 250 c.c. of pus in it. A lipiodol injection distinctly shows a bronchial fistula. Postural drainage has decreased her sputum nearly 100 per cent.

Meeting of January 27th

First Paper Presented: Silicosis—Its Complications" by Dr. W. W. Gay, Chief Surgeon for the A. S. and R. Dr. Gay presented a most excellent paper in a marvelously condensed form on the subject of silicosis. A topic with which he has had many years of experience. Numerous chest plates were exhibited, typical of the varistages of silicosis and its complications. (See article on page 89. Ed.).

DISCUSSION: Dr. R. B. Homan, Sr., mentioned the paper as being most excellent and one to which he could add nothing.

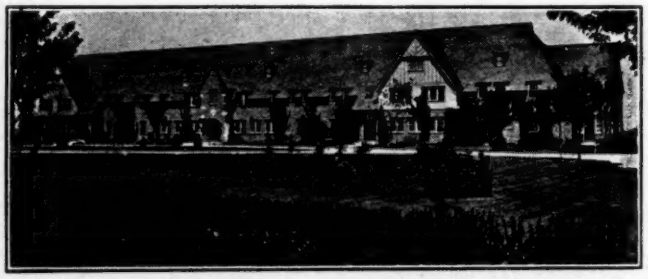
Dr. Orville Egbert stated that silicosis was not even an outstanding topic for the public press. He mentioned that asymmetry in the lung picture does sometimes occur. The pleural thickening, so common in silicosis is commonly thought to be due to peripheral lymph drainage.

Dr. L. O. Dutton stated that it had been his privilege to examine the sputum of many cases in which organisms of monilia were a complicating factor. He said that the examinations were repeated many times, so often in fact with all additional laboratory tests, culture plates, etc., that there could be no question as to diagnosis of monilia as a complicating factor in the cases cited. He had noticed himself that iodides greatly improve the cases of moniliasis.

Dr. Laws asked: If cases of silicosis in the first stage are removed from their source of trouble, do they improve or do they get progressively worse.

Dr. Gay answered as follows: Due to the great prevalence of pleural adhesions collapse therapy

Founded 1896 by Dr. Hubert Work



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Superintendent

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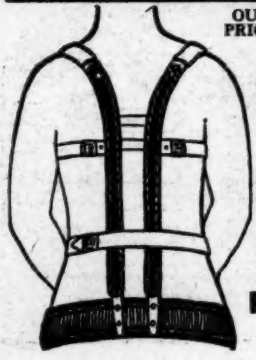

A well padded surgical steel spinal support furnished with apron and perineal straps.

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Take measurements around iliac crest, umbilicus, distance from sacro lumbar articulation to 7th cervical vertebra prominence.

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would be of no avail in silicosis and probably to diminishing the vital capacity of the lungs it would greatly endanger the patient's life. Disability is directly proportional to the amount of inhalation, which is usually dependent on the length of time the men have worked in the mines, though in somes cases a man may get enough silica in six months or a year to bring on a severe case of silicosis as is found in others only after 10 to 20 years of work in the mines. It has been shown that it is the very small silica particles—under five microns in diameter—that cause the most damage. It seems as if the human body has a quite remarkable tolerance to silica but that after a certain amount is absorbed, a terrifc flare-up in the lungs occurs with tremendous increase in fibrous tissue. This is silicosis. Dr. Gay went on to state that after removal from the dust a patient with first stage of silicosis might show progressive fibrosis for the ensuing 18 months, then all increase in fibrous tissue formation would cease. This is common in about 80 per cent of cases. The other 20 per cent may cease fibrous tissue formation and therefore terminate fatality. In 40 per cent of post mortems performed one year or more after removal of the men from their dust enviornment, no silica whatsoever could be demonstrated in the lungs. Silicosis by definition is progressive fibrosis of the lungs due to silica.

Dr. W. W. Waite presented a case of a boy who had ceased working at the age of 20 in the mines after some four years of employment there, who showed the further complication of lung abscess with progressive fibrosis and fatal termination some 10 years after removal from silica.

Dr. Paul Gallagher stated that this talk of Dr. Gay's had particularly and forcibly presented the issue that all cases presenting tuberculosis must be carefully differentiated clinically and with an x-ray plate from silicosis.

Dr. Stephen Schuster asked what preventive measures were helpful.

In his final response Dr. Gay stated that silica particles which do the most damage penetrate even the finest respirators, and that a repirator which will keep out silica particles below five microns in diameter almost prohibits proper breathing. Wet drill is not the solution as the dampness and cold lowers the general health of the man. When blasting occurs with water present very small microscopic droplets of water with silica particles adherent to them are formed which are then carried directly into the air sacks. The best protection is the natural filter of the nose itself, when this wears out silicosis follows. The solution will probably remain with the engineers who must devise methods of removing the dust of mining operations.

Meeting of February 10th.

Meeting was held in the staff room of the Hotel Dieu Nursing Home. In commeration of the new quarters for crippled children, established at the Masonic Hospital under the auspices of the El Paso Junior League, Dr. Miller has taken motion pictures on 16 mm. film of much of the work that Dr. Goodwin has done there. Various ortho-

pedic procedures including repair of club feet, of paralyzed legs from poliomyeltis, and striking kyphosis of the spine from Pott's disease were demonstrated. Repair of hare lip and cleft palate was also demonstrated. Probably, the most unusual was the repair of a diaphragmatic hernia in the left half of the diaphragm, which had permitted the entire stomach, spleen and most of the colon and small bowel in the left chest, compressing the left lung above the third rib. This operation was performed by Dr. Miller under cyclo-propane anesthesia. The child made a splendid recovery. A dorsal kyphosis due to Pott's disease was later repaired by Dr. Goodwin.

Dr. Jamieson displayed a three-reel "movie" of the Army Medical Corps in mock maneuvers, demonstrating the latest methods of handling the wounded when combat units are advancing. It was instructive.

Dr. R. B. Homan, Sr., presented a case report of a woman, age 63, who had been diagnosed pulmonary tuberculosis, but in whose copious sputum no tubercle bacilli could be demonstrated. The outstanding symptom was dyspnea—present for at least six years. No antecedent cause for the dyspnea could be made out. There was no cardiac pathology. X-rays revealed several small cavities in the right lung below the clavicle. In the six months prior to her demise she was orthopneic. There was no great loss of weight and x-rays shortly before death showed a marked increase in the mediastinal shadow with heavy white markings in the lower lobes. Autopsy revealed a diffuse bronchiectasis of both lungs with extensive fibrosis throughout and marked pleural thickening. The organisms recovered were streptococci and staphylococci. No fungi or spirochetes were demonstrated.

The other case report of the evening was made by Drs. Goodwin and Waite. A Mexican man, about 40 years of age had been struck in the right side of the head and right shoulder by a heavy rock while working in a mine in November, 1935. The rock glanced from the head and shoulder, struck his right knee and crushed some of the bones of the right foot. The man's complaint was

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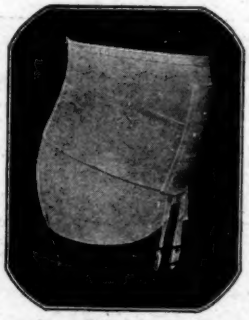
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pain in the chest and right foot. Prior to death, Feb. 3, 1936, physical signs of the chest were essentially normal. No cause for his recurring pain over the sternum could be found. Autopsy revealed multiple infractions of both lungs, some old and fibrosed and others recent. A thrombus was discovered in the veins of the right leg just above the ankle. Patient's death was sudden and a thrombus was discovered in the pulmonary vessels which seemingly explained the sudden exodus.

PUBLIC HEALTH NOTES

J. ROSSLYN EARP, Dr. P. H.
Director New Mexico State Bureau of Public Health

DR. CRAMP RETIRES

The retirement of Dr. Arthur J. Cramp from the directorship of the Bureau of Investigation of the American Medical Association cannot pass without notice in this column. The Association has done no other work of such value to the public health as has been done by the bureau founded by Dr. Cramp and brought by him through 30 years of distinguished service to its present powerful position. Health officers, teachers, editors and many other citizens send inquiries to the Bureau of Investigation every year. No one has ever failed to receive a courteous reply and from the records of more than 200,000 investigations made by the bureau helpful information of the past history of any fraudulent remedy can usually be extracted.

Dr. Cramp may enjoy the relaxation of Florida's climate with a good conscience. And yet we hear rumor that his pen will not stay still; we shall never tire of reading its lively message.

SAME TO YOU, DOCTOR.

Following is one of several acknowledgements by colleagues of New Mexico of the arrangements made by the State Bureau of Public Health for purchase at the expense of the New Mexico Relief and Security Authority of remedies for the treatment of indigent syphilitics:

Dr. Earp—This is really fine! Just this morning a girl (waitress) fired from her job because of scondary luetic rash, came into my office. No funds at all, no prospect of work until she is rendered non-infectious. She is also a "stepper" I am certain, and by being able to treat her, it will prevent infection being spread to several young men at least, as well as getting her back on her feet. Thanks.

That is the sort of a note that makes a health officer feel good. Of course we believe that we should care just as deeply about the public health even if we were not paid to care for it. But here is a man who gets nothing for his pains thanking me that he has an opportunity to give his services for the public good.

WARNING

The National Medical Association, organization of negro physicians, issues a warning regarding a Reverend Amos H. Carnegie. It seems that some well disposed people who are influenced more readily by sentiment than by logic have entrusted to Mr. Carnegie sums of money for a grandiose project of hospital construction. The slogan is "a negro hospital in every city with a population of ten thousand or more." We have not heard of Mr. Carnegie in the Southwest. It may be that the warning resolution of the National Medical Association, which almost covers two single-spaced typewritten pages, has led him to espouse some other cause.

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